a W. R. C. Smith publication

FIFTY CENTS

Textile Industries

Formerly "COTTON"

APRIL, 1959

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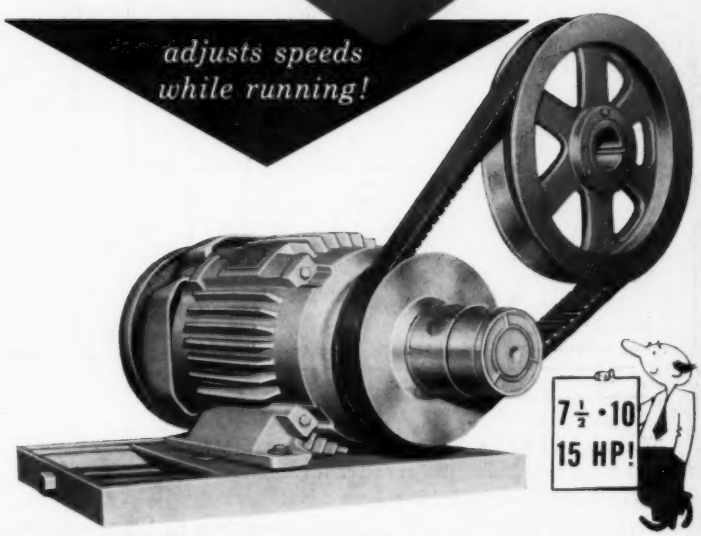
New Low Cost
TEXTILE
PULLEY

adjusts speeds while running!



REEVES *vari-spin drive*

● Speed settings in 2:1 range are accurately made in seconds—*while the frame is operating.*

A low cost unit, the compact 975-T features REEVES' exclusive "close grooving" for positive lubrication . . . free sliding shifting action.

Contact your nearest REEVES or RELIANCE representative, or write for complete details in Bulletin T37-G586-1.

for a wider speed range, 3 to 1, fixed center drive, write also for details on REEVES No. 16-10 Vari-Spin Drive . . . through 15 hp. Ask for Bulletin T37-G561-1.

Product of REEVES PULLEY COMPANY Division of

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4

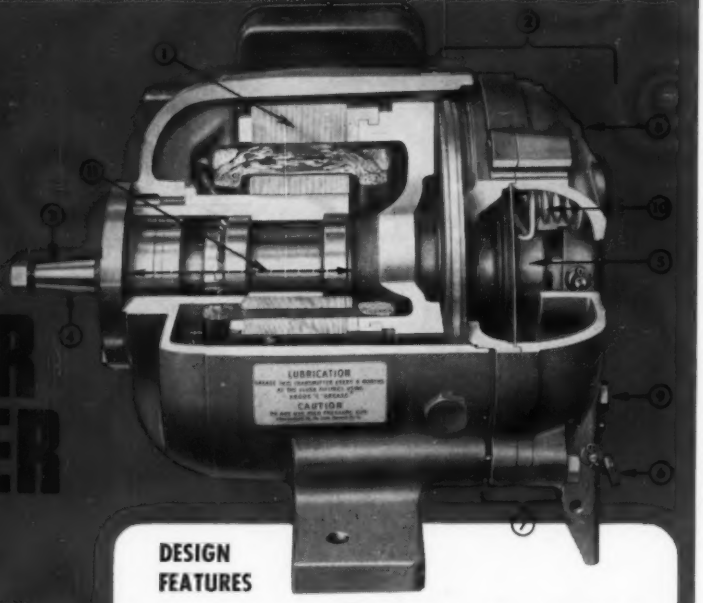
Next Month—Special feature on tufted textiles

THE DEPENDABLE DIEHL

"BA" POWER TRANSMITTER

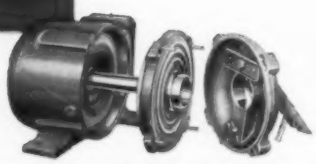
For Draper Looms

Exclusive new design features mean . . . *consistent* quality production . . . *peak* operating efficiency . . . minimum maintenance, labor and costs!



STREAMLINED FRAME
Easy to clean. Roomy terminal box.

KINETIC BRAKING ACTION
(See Feature 6)



CLUTCH-ACTUATING BEARING—A strikingly new and improved method of mounting. (See Feature 5)

CLUTCH-BRAKE ASSEMBLY—Improved, simplified. Readily removable as a unit. (See Feature 2)

DESIGN FEATURES

*1. High inertia inverted motor provides "stored energy" for smooth, fast starts and positive picking (maximum inertia with minimum size) . . . prevents regeneration.

The original and only loom power transmitter . . . plus many outstanding design and construction features never before incorporated in a loom drive!

Over 40,000 Diehl Power Transmitters have been in continuous operation on DRAPER LOOMS—*most of them more than six years!* The "BA" Power Transmitter is even *more* compact, *more* streamlined, *more* efficient and *more* easily installed and serviced than its famous predecessor.

It's an inverted-type high inertia motor combined with a fast, positive clutch-brake mechanism. Note the exclusive design features—the clutch-actuating bearing mounting . . . the kinetic braking action . . . the unitized clutch-brake assembly. These important advancements mean increased production . . . improved cloth quality . . . lowered operating costs . . . fewer shutdowns. *Write, wire or phone today for full information.*

plus these outstanding Features

*2. **CLUTCH-BRAKE ASSEMBLY**—Improved and simplified for positive action and ease of adjustment. Removes readily as unit for maintenance, without disconnecting motor from loom frame.

3. **PINION**—Free accessibility for installation and maintenance.

4. **SHAFT**—Large diameter, alloy steel, heat treated—assures long life, eliminates need for outboard bearing.

*5. **CLUTCH-ACTUATING BEARING**—New diaphragm mounting for frictionless clutch action, positive radial rigidity of bearing . . . eliminates fretting corrosion . . . means full self-alignment of bearing for maximum life.

*6. **KINETIC BRAKING ACTION**—For rapid, accurate stops. Particularly desirable for center fork detection looms.

7. **CLUTCH AND BRAKE ADJUSTMENT**—Simple and convenient. Provides visible check on brake alignment.

*8. **CLUTCH-SETTING INDICATOR**—Built integral with unit for instantaneous external checking of clutch setting.

9. **SAFETY LATCH**—Built integral with unit. Prevents accidental engagement of clutch.

10. **CLUTCH-LOADING ASSEMBLY**—Internally located, hence tamper-proof.

11. **SHAFT-END BEARINGS**—Arrangement simplified and improved. Two ball bearings and an extra large roller bearing assure maximum life.

** Exclusive feature—patent protected.*

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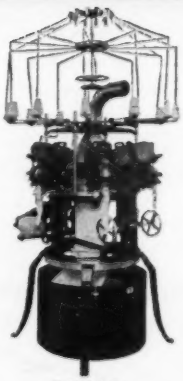

FBW-6

Luxury Underfoot . . . . .

Fabrics produced on the Wildman Jacquard "Hi-Pile" knitter now include a colorful range of floor coverings. • *Popular and practical,* these "Hi-Pile" rugs open still another market for this versatile machine. • The Wildman Jacquard FBW-6 offers a wide range of fabrics in natural or synthetic fibers. • For complete information write:

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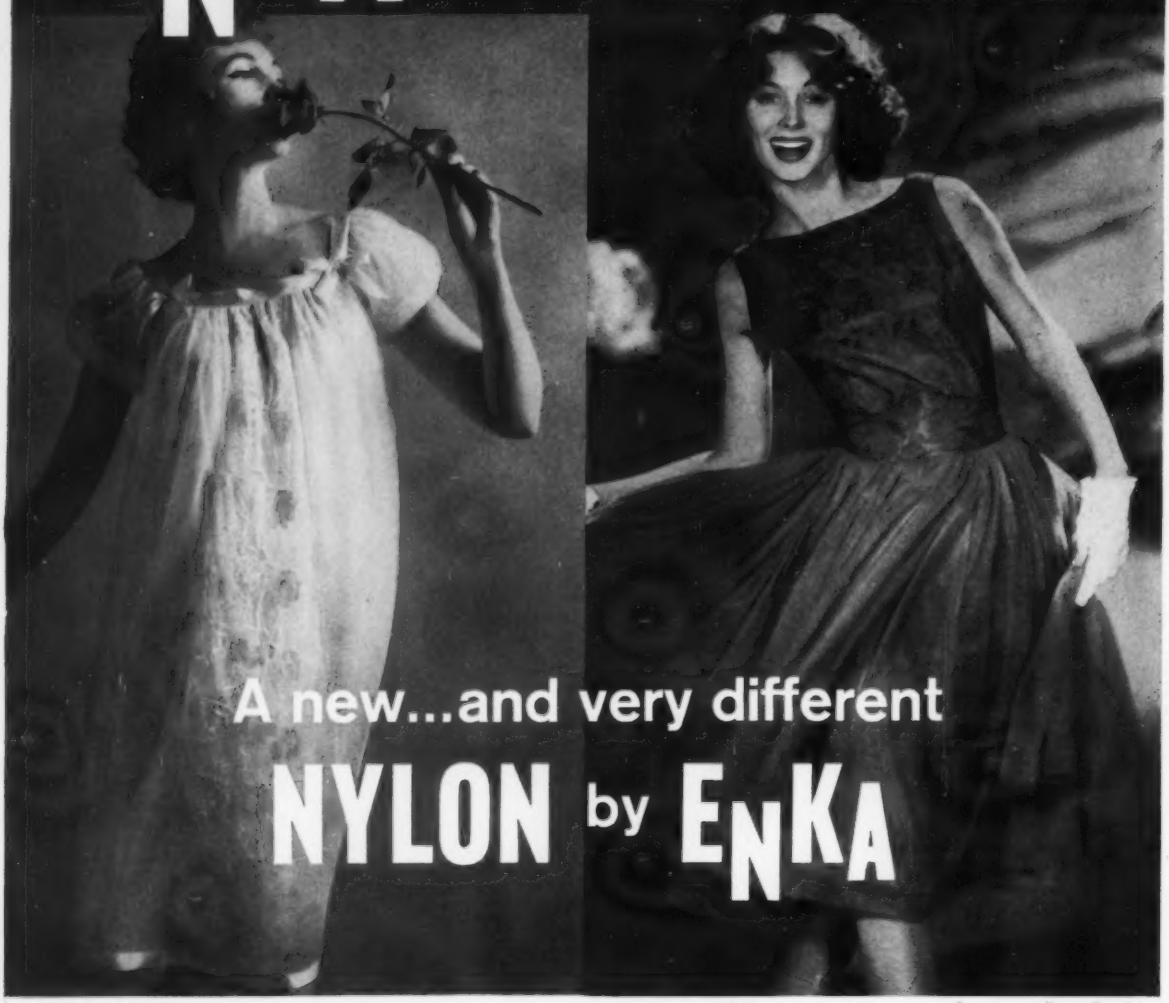
WILDMAN JACQUARD CO. • 1210 Stanbridge Street • Norristown, Pennsylvania
Manufacturers of HEMPHILL BANNER Knitting Machines

a subsidiary of Draper Corporation, Hopedale, Mass.

ENKA PROMOTABLE YARNS MEAN BIGGER PROFITS FOR YOU!



A new...and very different NYLON by ENKA

LINGERIE BY SKYLON

FABRICS BY BANGOR MILLS

DANCE SKIRT BY NELLY DE GRAS

Tricot converters agree that no nylon takes dyes like Enka nylon...the softer, more lustrous nylon that has taken the market by storm.

Our new nylon has a special appeal for my fair lady because it was researched and developed with her in mind—for her lingerie; hosiery; tricot chiffon blouses, skirts and dresses; sweaters—for all the intimate and outerwear fashions to which Enka nylon brings lasting beauty and superior performance.

It is an unbelievably soft yarn created especially for the things that women wear. National advertising, merchandising and publicity are carrying this compelling sales story to stores and consumers across the country.

Bold fashion ads and hangtags, counter cards and wall and window posters echo this profit-packed selling theme: "A new and very different nylon by Enka...especially for you."

Mills, converters, cutters, knitters, and manufacturers interested in hearing about Enka's "New...and Very Different Nylon" promotion supported by national advertising, merchandising and publicity, contact:

Mr. Arthur B. Harris, Jr. at Oxford 7-6141, Ext. 26, or contact the Enka sales office nearest you.

American ENKA Corporation, 530 Fifth Avenue, New York 36, N. Y. • Chattanooga • Greensboro • Providence

Producers of Jetspun® solution-dyed rayon • Skyloft® lofted filament rayon • Filament and staple rayon • Filament and staple nylon

Textile Industries

Formerly "COTTON"

APRIL 1959 VOL. 123, NO. 4

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If you are, you'll be interested in how a firm experienced in making heavy fabrics prevents filling difficulties on automatic looms.

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NEXT MONTH

■ Highlight of TEXTILE INDUSTRIES for May will be a special feature on tufted textiles—our fourth annual survey of the problems and progress of the tufting industry. Also featured will be articles on how a mill uses the core test to assure uniformity in raw stock dyeing of synthetics and blends; how high-speed drawing effected economies for a southern cotton mill; the second installment of "How to Make Fancy Terry;" and a new approach to blending cotton—blending by the cotton merchant.

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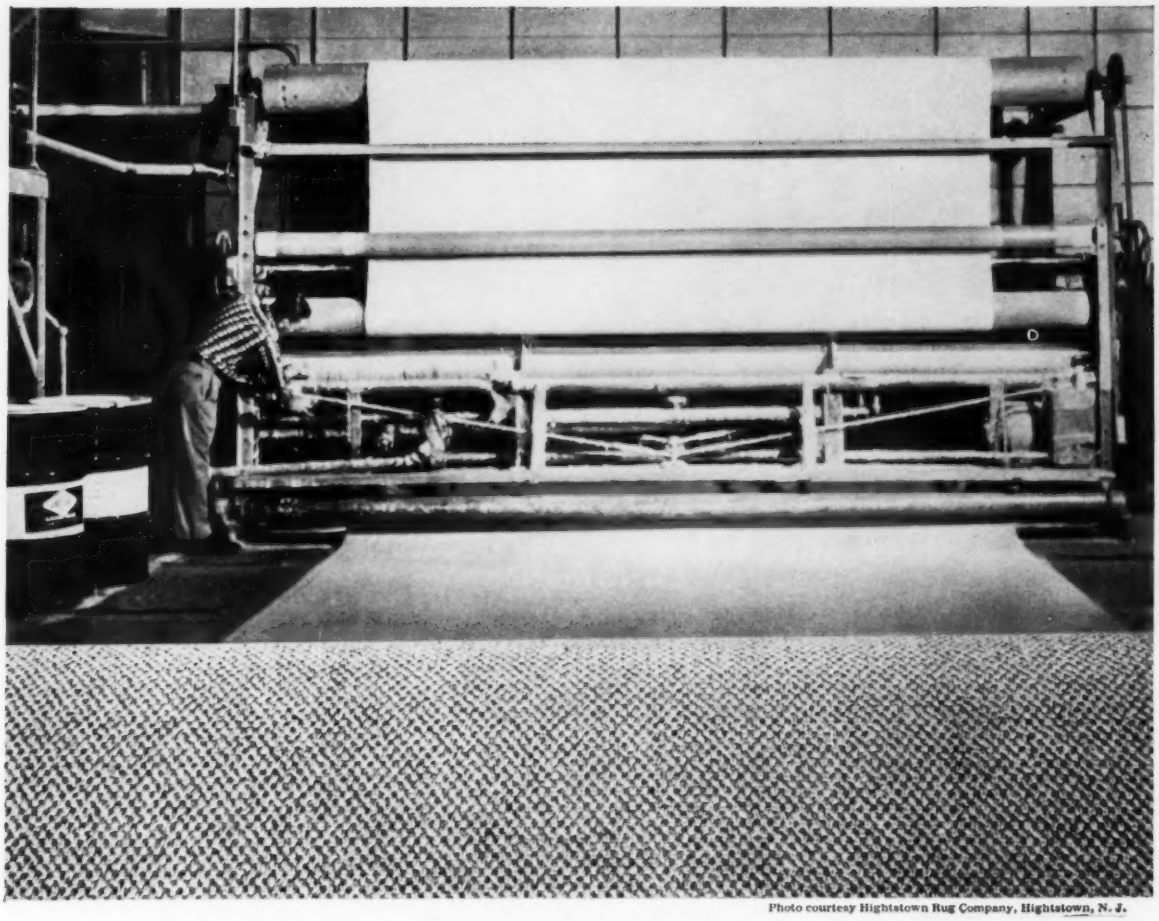


Photo courtesy Hightstown Rug Company, Hightstown, N. J.

Best way to back up a bright idea

Look closely and you will see that this is a *knitted* carpet—made by looping rather than weaving. Yet this carpet has the general appearance, good "hand" and wearing qualities of considerably more expensive woven carpeting – all of which adds up to a pretty bright idea.

How is this possible? It's due–in large part–to the backing, for the looser construction of knitted carpets demands a backing material of superior tuft-lock and fiber-binding characteristics. And these are the major reasons why one of the country's leading carpetmakers chose a combination of CHEMIGUM LATEX and PLIOVIC LATEX to back up its bright, new knitted line.

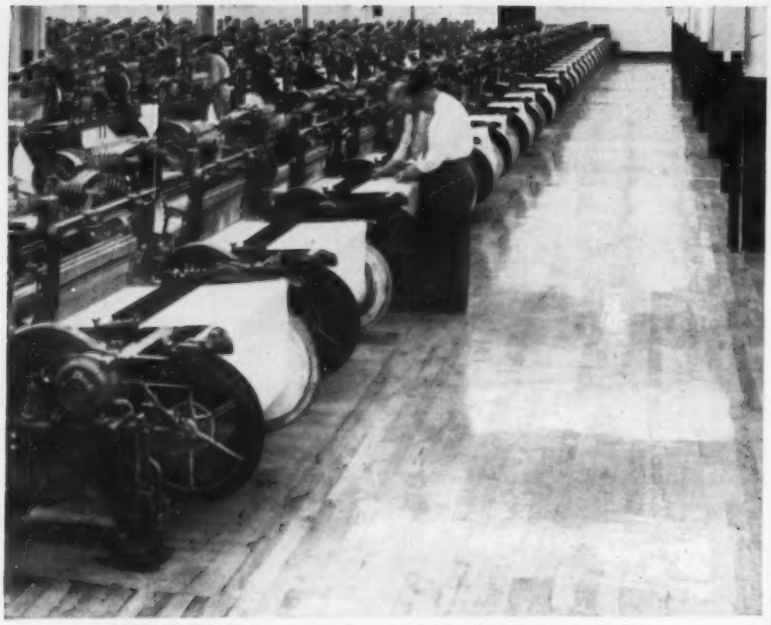
Other benefits of the backing include dimensional stability, excellent body, good color stability and nonskid properties. Moreover, it's easy to compound and apply, processes well and is permanent–thanks primarily to the CHEMIGUM LATEX.

Need a better backing for *your* bright ideas? CHEMIGUM LATEX may well be the answer. For full details – plus latest *Tech Book Bulletins* – write Goodyear, Chemical Division, Dept. D9439, Akron 16, Ohio.

GOODYEAR

CHEMICAL DIVISION

Chemigum, Pliovic–T. M.'s The Goodyear Tire & Rubber Company, Akron, Ohio



TENNANT-SEALED weave room floors are bright, dirt-resistant, easy to clean.

How your TENNANT Floor Specialist helps you save ⅓ in floor care costs

Would you like your mill to have floors as bright and clean and durable as this? And at an annual cost up to a third less than you're now paying?

Your TENNANT Floor Specialist *can show you how.*

Makes floors dirt resistant. He can demonstrate, for example, the exclusive TENNANT SYSTEM process that actually makes your floors up to 3 times more resistant to dirt. And when they *do* soil, dirt wipes off easily in a fraction of the usual time.

Seal lasts twice as long. Your TENNANT Man will also demonstrate heavy duty floor seals which are *unequalled for durability.* Since they end the need for frequent refinishing, you'll save many gallons of material each year.

Used in 1000 major mills. More than 1000 of America's leading mills are now saving money by using the complete TENNANT SYSTEM of floor care. And most are following an *individualized* program which their TENNANT Man developed to fit their specific needs in each department.

WRITE TODAY *for an analysis of your floor care problem. You may be surprised at the saving you can make.* G. H. Tennant Co., 735D No. Lilac Drive, Minneapolis 22, Minnesota.

TENNANT

The Textile Industry's Most Widely Used

FLOOR MAINTENANCE SYSTEM

Methods

Machines

Materials

FLOOR MAINTENANCE SYSTEMS

SHORTS & REMNANTS

► Happy Halifax Independence Resolution Day to you in North Carolina (Apr. 12); and to our friends in Maine and Massachusetts—Happy Patriots' Day (Apr. 19; does Paavo Nurmi still win the Boston Marathon every year?). To the residents of the Nation's second-largest state —Happy San Jacinto Day (April 21). And of course, Confederate Memorial Day is April 26.

► Greensboro, N. C., newspaper reports that **Hobart Souther** of Cone Mills Corp. is the first person to travel from Greensboro to Chicago by way of Honolulu, which reminds S&R of the one about the guy who asked the ticket agent for a ticket to New York. "Do you want to go by Buffalo," said the agent. "No, silly, by train," was the reply. So, you ask silly questions and you get silly answers.

► According to a report in an issue of the "Dyer," the U.S.A. state flags at the American pavilion at the Brussels World's Fair were made of Terylene (British version of Dacron) and were made in England, and that tops the one about the rayon banners advertising National Cotton Week in Memphis.

Add Veterans' Organizations

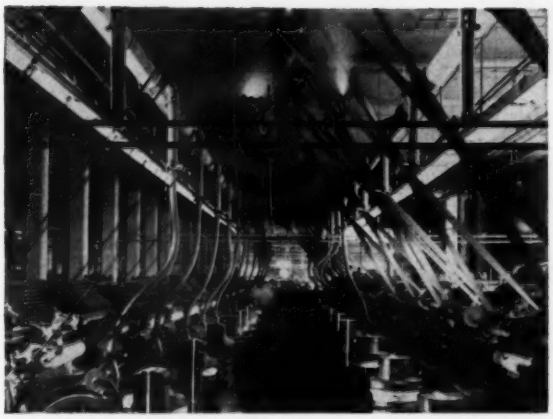
You can add another field covered by good ole TI. In addition to inquiries from pizza kitchens, horse farms, shoe repair shops, printers, we see that **H. K. Kornstedt, Jr.,** Cdr. Chas. W. Terchon Post #5442, Bristol, Pa., writes for more data on Finnell combination Scrubber-Vac [Sept. '58 ad]. So there you have the Legion.

► Add to list of those requesting extra copies of index to TEXTILE INDUSTRIES for 1958: **E. W. Cloud,** Textile Research Laboratory, Du Pont Co., Wilmington, Del.; **Leland S. Liang,** lecturer on textile marketing, The City College, New York, N. Y.; **Gilbert R. Merrill,** retired head of the cotton department at Lowell (Mass.) Technological Institute; and librar-

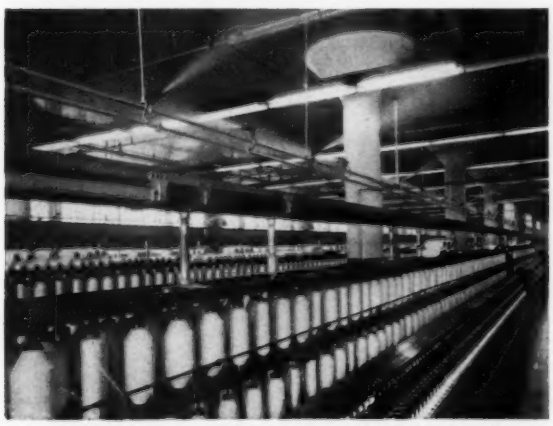
(Continued on page 10)

WILLIMANTIC, CONN. — Humidification with cooling was the choice in this mill.

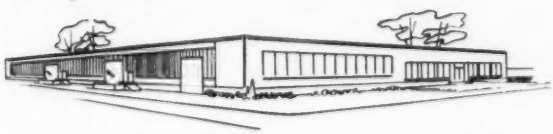
DALTON, GA. — Amco Humidification with cooling was preferred for spinning operation at Dalton, too.



NEWNAN, GA. — Amco Humidification alone was selected for carding room at Newnan.



CLOVER, S. C. — Humidification alone is also used in the spinning room here.



Cleveland-Rowan Plant of American Moistening Company. This modern plant is located at Cleveland, N. C. for the fabrication of duct work and sheet metal products.

a leading All-American team...

AMERICAN MOISTENING COMPANY
and
AMERICAN THREAD COMPANY

A 65-year old association which has resulted in great gains in product quality and productivity

Correct yarn regain through maintenance of normal moisture content is only one of the benefits which American Thread has enjoyed as a result of the use of Amco humidification. Among the others are yarn numbers kept more even; increased output due to closer machine tolerances and less static electricity; improved product quality because of fewer thread imperfections, reduced dust and fly, more operator comfort.

Amco, of course, designs *all* types of systems — straight humidification; humidification in combination with ductless evaporative cooling, as used by American Thread; dry duct systems; and central station air conditioning.

For expert advice, backed by many years of textile air conditioning experience, call on Amco. An Amco engineer will be glad to suggest a solution to any air conditioning problem you may have. There is absolutely no obligation.

AMCO

SINCE 1888

AIR CONDITIONING EQUIPMENT

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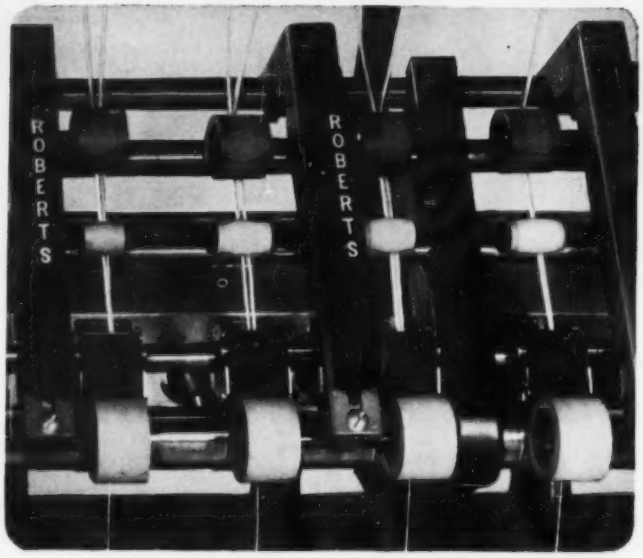
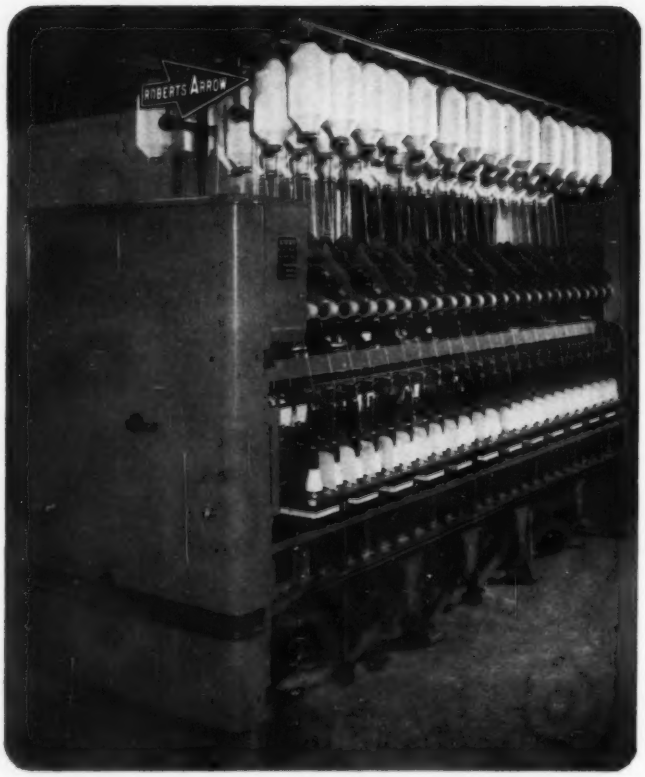
ROBERTS ARROW *LONG FIBER* SPINNING

- Any Fiber or Blend Synthetic or Natural
- Any Staple Length From 1½ to 8 Inches
- No Roll Setting Changes Needed at Any Time
- All Ball Bearing Construction For Smooth Operation



WITH ROBERTS *PermaSet* DRAFTING

ROBERTS ARROW



WM-2 ARROW *ShortFlo*

Rugged Chassis with Ball Bearings Throughout

Unitized Sectional Construction

Four-Roll Double Apron Drafting System

For Long-Staple Spinning, 100% or Blended

Drafts: 20 to 25 for Wool and Blends
25 to 50 for Synthetics and Blends

Front Roll Pressures from 90 to 120 pounds

UnitVac Power Suction Cleaning with Individual Removable Flutes

Roberts AeroCreel Handles Large-Package Roving

Simplified Reverse Twist Arrangement

Completely Adjustable Draft, Lay, and Twist Constants

One Master Set of Gears for All Changes

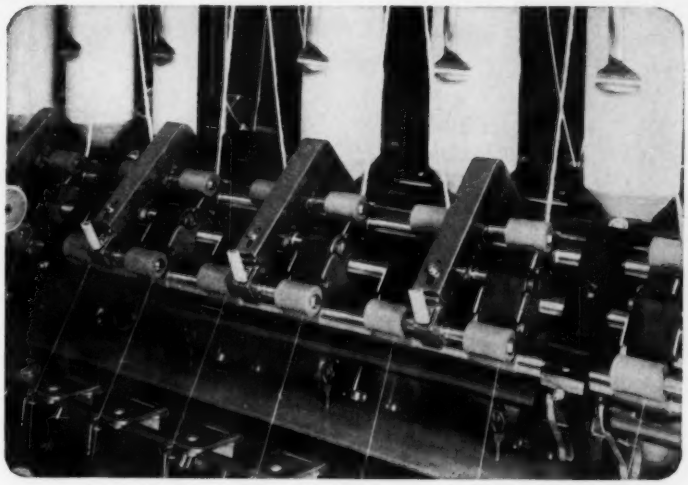
Actual mill tests have proved that the ARROW WM-2 Worsted Frame gives higher quality yarns with fewer ends down and more even running at higher drafts and higher front-roll and spindle speeds.

ROBERTS COMPANY
SANFORD, NORTH CAROLINA

THE MOST SENSIBLE ANSWER TO GADGET-FREE TOP ROLL SUSPENSION

ROBERTS *PosiWate* SUSPENSION SYSTEM

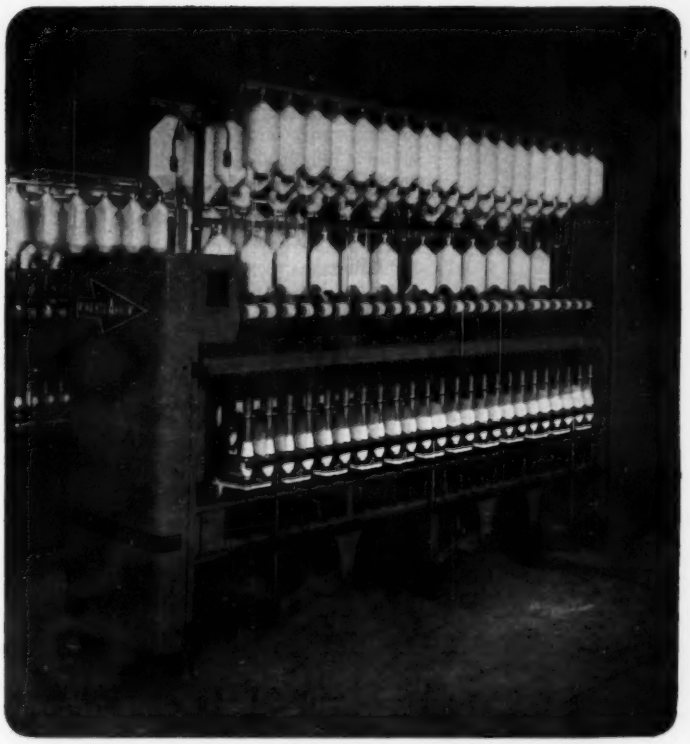
Elegantly simple, the Roberts PosiWate Top Roll Suspension System is completely free of hooks, unpredictable short springs and other gadgets. PosiWate recovers the best features of positive weighting and weight distribution used and proven in several million spindles insuring uniform performance from spindle to spindle.



A FEATURE OF

ROBERTS ARROW

ALSO AVAILABLE AS CHANGE-OVER MODERNIZATION ON ANY MAKE OF FRAME



Very Advanced

ARROW SPINNING features:

- PosiWate Top Roll Suspension
- UnaRing Balloon Control
- EvenGrip Fluted Bottom Rolls
- Roberts Supreme Ball Bearing Spindles
- Double-Apron High Draft System
- UnitVac Power-Suction Cleaning
- Roberts All-Ball-Bearing Head
- Unitized Sectional Frame
- AeroCreel with Latch-Type Bobbin Holders
- Flexibility For Cotton And Synthetics

ROBERTS COMPANY

SANFORD, NORTH CAROLINA

For further information use Handy Return Card, Page 189

and twisting
spinning specialists!

Delicate spinning and twisting operations often call for special ring travelers designed to meet your exact requirements. And, nine times out of ten, National-Sterling Engineers have the prompt answer!

No one knows better what the right travelers can mean to modern spinning and twisting operations than the mill men who have called on National-Sterling Engineers for "right traveler" recommendations. In each case, they've found that smooth-running, precision balanced National-Sterling Ring Travelers consistently deliver more pounds of first class yarn at higher spindle speeds with fewer ends down.

Whether you're running cotton, wools, synthetics or blends, it will pay *you* to let an experienced National-Sterling Engineer "brush the cobwebs away" from your spinning and twisting problems. For prompt service, write, wire or phone National Ring Traveler Company and Sterling Division, 354 Pine Street, Pawtucket, R. I. Southern Office and Warehouse: P. O. Box 293, Gaffney, South Carolina.

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F. S. BEACHAM, P. O. Box 511, Honea Path, S. C.
N. H. LEECH, 354 Pine St., Pawtucket, R. I.

Export Agent: A. M. ROMERO CORP., 350 Fifth Ave., New York 1, N. Y.

SHORTS & REMNANTS

(Continued from page 6)

ians from West Point Mfg. Co., Shawmut, Ala.; Callaway Mills Co., LaGrange, Ga.; Clemson (S. C.) School of Textiles; and U. S. Tariff Commission, Washington, D. C.

► Seen on a tag sewn into a pair of blue jeans at an Atlanta department store which caters to teen-agers: "Guaranteed to Shrink."

D'Ye Ken Norman Vincent Peel?

One of our good contemporaries recently published an inspirational-type article which contained the sentence, "Science and religion are perhaps not held so intransigently to be irreconcilable today as in the earlier mechanistic phases of the Twentieth Century." One of our readers mulled this over for a while, then sent us a tear sheet from the other textile magazine, circling the above sentence in blue, with the following letter:

DEAR SIR,

I can grind cards good all ready. Why dont your magazine stop being so dam intransigently and help we readers with our vocalubary.

Yrs. truely
JOE SLIVER

P. S. A colum by Doctor Norman Vincent Peel wouldnt hurt none either.

J. S.

► Guess maybe sometimes we're too mechanistic.

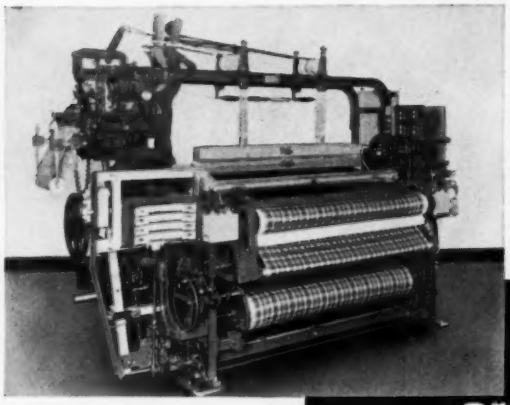
Purchasing

First request for reprint of special feature on purchasing (TI for Feb.) came from **C. A. Grabarek,** personnel dir., Atwater Throwing Co., Plymouth, Pa., closely followed by **Louis Squitieri,** CPA, New Canaan, Conn. Well-known chemical company wanted batch of reprints of "Dishonest Practices" from the purchasing feature for distribution to all its salesmen. And an official of a southern textile chemical company wrote us the following letter:

". . . The article 'Dishonest Practices' certainly does show that dishonest practices do take place in certain purchasing and selling functions in the mills, but it does not define whether or not these practices are more prevalent in the northern textile industries or are also to be found here in the South.

"I know in a previous article which

(Continued on page 14)



⇦ C-7 . . .

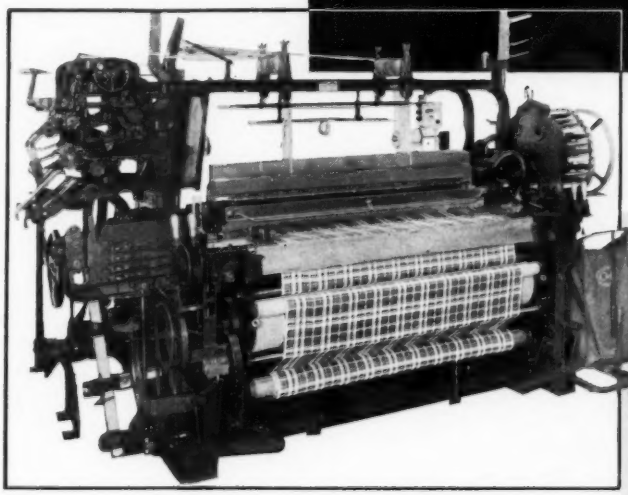
LOOM . . . For All Cottons, Spun Rayons and Dress Goods. This is the push-button, automated loom with electric protection, brake and clutch . . . double link binders . . . vacuum control . . . center stop motion with electrical indication . . . paper indication for dobby.

Here are four of C&K's

Proven Producers of Today's Most-Wanted Patterned Fabrics

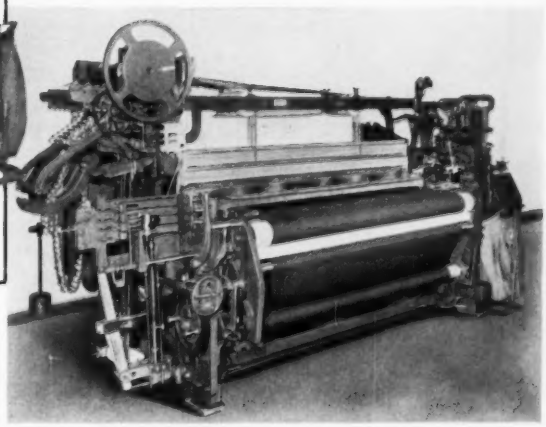
M-P . . .

LOOM . . . The Multi-Purpose Loom for All Types of Fabrics, and all types of yarns . . . natural or synthetic, spun or filament. Constructed as wanted. Convertible as needed . . . 4x1, 2x1, 1x1, 2x1 filling mixing. With dobby, head motion, undercam, or jacquard if desired. 36-bobbin rotary magazine, vacuum filling control, scissors thread-cutter, and many other features. ⇩



Narrow Fabric Needle Loom

For Tapes and Elastic Webs. High speed, efficiency and production . . . yields approximately 1 yard of fabric per minute per space. 2 pieces of fabric are woven simultaneously, side by side, on the same level.



PAPA LOOM ⇨

Pick and Pick Automatic, the world's most versatile loom . . . for cottons, woolens, worsteds, blends, synthetics, metallics, covered rubber and stretch-type fabrics, dress goods, upholstery, drapery fabrics. Easily convertible to 4x1 box operation.

CROMPTON & KNOWLES CORPORATION C&K WORCESTER, MASS. U.S.A.

CROMPTON & KNOWLES *Corporation*

MANUFACTURER OF

THE WORLD'S LONGEST LINE OF AUTOMATIC BOX LOOMS

WORCESTER, MASSACHUSETTS

CHARLOTTE, N. C. • ALLENTOWN, PA. • Crompton & Knowles Jacquard & Supply Co., Pawtucket, R. I. • Crompton & Knowles of Canada, Ltd., Montreal, Quebec

News about LUREX®

The Knitting Metallic: *Lurex MM*

Lurex MM (metallized polyester yarn) is *the* metallic yarn for knitting. This yarn, covered by U.S. Patent #2714569:

- is compatible with all fibers
- stresses a high yield per pound
- may be knitted from spools or cones, supported or unsupported, and in novelty twists
- affords ease of application on a wide variety of knitting equipment

See charts opposite for details in terms of your own mill operation.

Lurex, non-tarnishing metallic yarn made only by the Textile Fibers Department

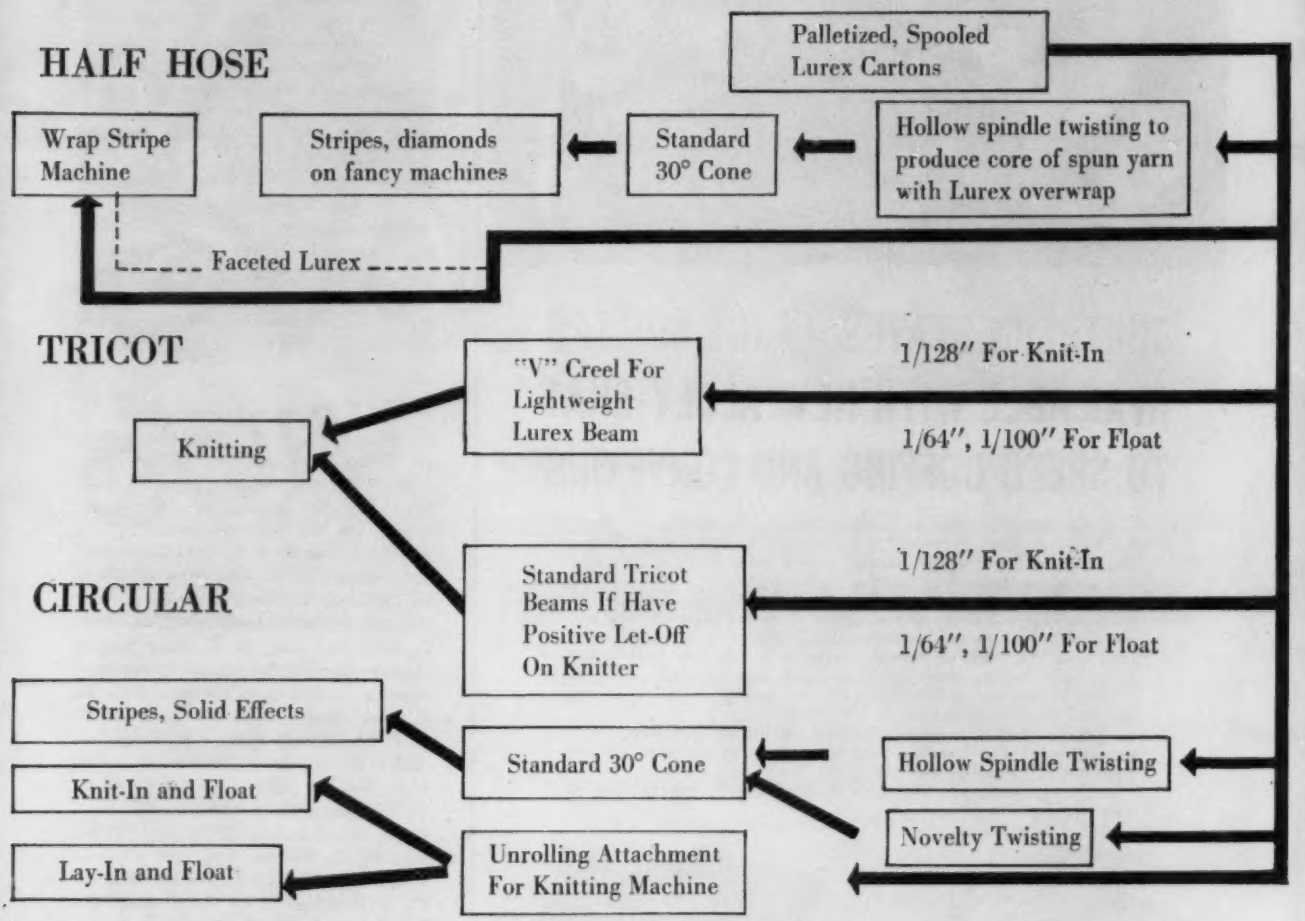
DOW

The Dow Chemical Company • ***Williamsburg, Virginia*** • ***New York: 350 Fifth Avenue***

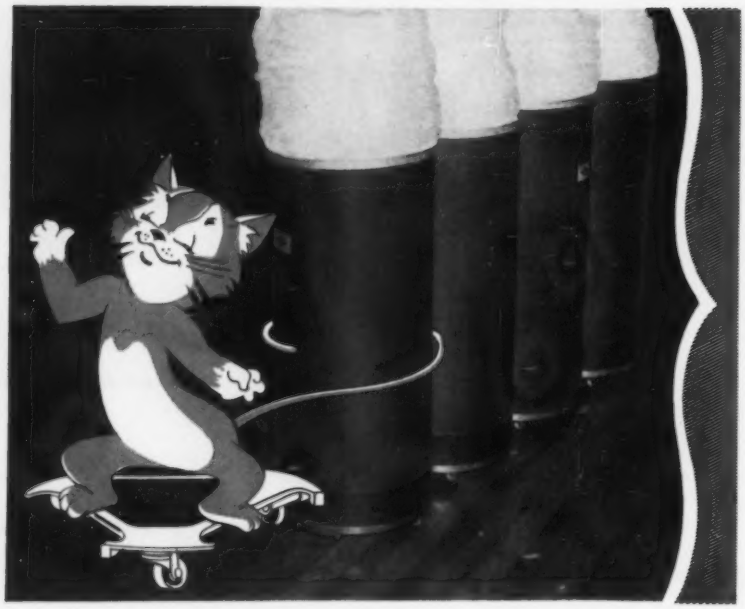
Boston • Camden, N. J. • Charlotte, N. C. • San Francisco

Manufacturing Affiliates in Canada: William B. Stewart & Sons, Ltd., Toronto and Montreal

Typical flow charts for knitting mill operations
LUREX MM



See Lurex at booths 471—472—473 at the Knitting Arts Exhibition in Atlantic City.



SOUTHERN STATES LARGE COILERS AVAILABLE WITH NEW ALLEY-SKAT TO SPEED DOFFING AND CONVEYING

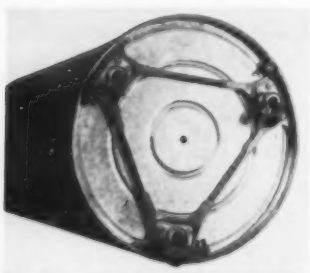
Large-size Southern States Coilers are now available with ALLEY-SKAT, the simplest, most economical can conveyor system ever developed. The problem of doffing and moving heavier cans may now be solved with a low capital outlay.

For example, suppose you are equipping your mill with large Southern States Coilers: if you decide to employ ALLEY-SKATS, you can specify that special cantable adapter plates be included at no extra cost. The only additional charge is for the can latches and ALLEY-SKAT dollies, which are available at nominal cost.

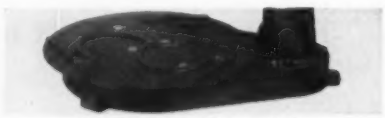
The latches and dollies are easily and quickly installed on any standard can without drilling or alteration.

The ALLEY-SKAT is strictly optional equipment. However, if you are concerned with handling large cans, as most mill men are, we suggest that you investigate the ALLEY-SKAT.

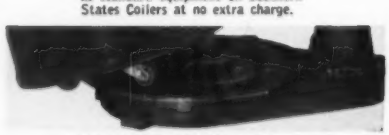
Get full information from your Southern States representative or write for Bulletin 501.



ALLEY-SKAT Dolly mounts to inside of can rim. Dollies are made of finest materials, including heavy-duty mill-type casters.



Cantable adapter plate is available as standard equipment on Southern States Coilers at no extra charge.



Doffing of large, tightly packed cans is quickly and easily accomplished. No lifting required.

SOUTHERN STATES
EQUIPMENT CORP.
HAMPTON, GEORGIA

SHORTS & REMNANTS

(Continued from page 10)

appeared in TEXTILE INDUSTRIES, the impression was that these practices were occuring on a much vaster scale in the so-called northern textile districts than here . . . I hope that this . . . dishonesty has not invaded the South as well. . .

"It is my feeling that most malpractices in purchasing arise from the fact that too many purchases are surrounded with an air of secrecy and mystery and are screened . . . very often from the . . . management of the mill itself."

► Well, of the six case histories of purchasing malpractices detailed in the article, five were taken from southern mills. However, we intended to make no judgment as to whether such practices are more common North or South—we do not have enough information to make such a judgment.

► **Wm. F. Crawley,** Carborundum Co. Niagara Falls, N. Y., wanted reprints of "The Tape Condenser" [Mar. Apr. & May '58] and we didn't reprint that. We had two extras of "Minimum Staple for the Highest Count" [Oct. '57] for **Anton F. Wolf,** Otto Goedecke, Inc., Halletsville, Tex.; also an extra on "Dyeing Blended Fabrics" [Aug. '58] for friend **J. Andrew Clark,** Wallerstein Co., Inc., N. Y. Also among those requesting free reprints recently offered in this here column were **D. E. Ross,** Supt., Woodruff (S. C.) Mill; **A. F. Blackburn,** Qual. Dir., Appleton (Wis.) Woolen Mills; **Leo Beck,** Prod. Mgr. Beattie Mfg. Co., Little Falls, N. J.; **James E. Robinson, Jr.,** Asst. Supt., Washington Mills Co., Fries, Va.; **W. C. Wilton,** Res. Asst., C-I-L. Kingston, Ont. Can., **Plante Gaston,** St. Hyacinthe, P. Q.; **R. Plamondon,** St. Valerien, P. Q.; **Enrique Meyer,** Textiles Monterrey, S. A., Monterrey, Mex.; **H. M. Pontefract,** chemist, Sterling Pile Fabrics, Fall River, Mass.; **Pedro Rius Caba,** dir. engr., Jose Rius, Barcelona, Spain; and **F. Vidal,** engr., Hilaturas Levante, Alcudia Crespins, Spain.

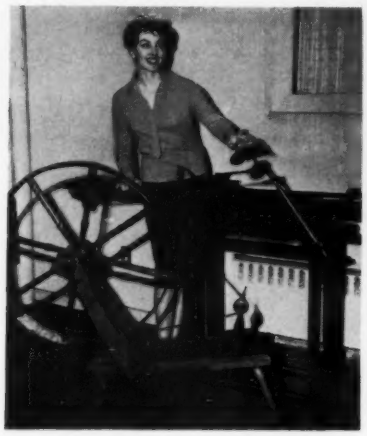
► "American Fabrics," N. Y., is compiling a "World Encyclopedia of Textiles" and writes to ask if 1955 TI chart on "America's Textile Schools" is still correct.

► And speaking of schools, **Martin J. Lydon,** Pres. Lowell (Mass.) Techno-

logical Inst., writes that they are the only college in U.S.A. offering B. S. degree in Leather Engineering.

Old Frames and New Frames

► A century-old skein reeler (in the foreground of the picture below) is one of several pieces of antique knitting equipment which will be on display at the Knitting Arts Exhibition



next month. In the background is an old hand-operated knitting frame. The modern frame in the background belongs to Charlene Holt, 1959 Sweater Queen, who will also be one of the attractions at the Show.

► And Karl Marx (the Robert Reiner, Inc., Karl Marx) has this to say in "Thoughts on Machines":

The best of machines is no match against a poor mechanic.

A machine cannot talk back—that's why it usually gets blamed.

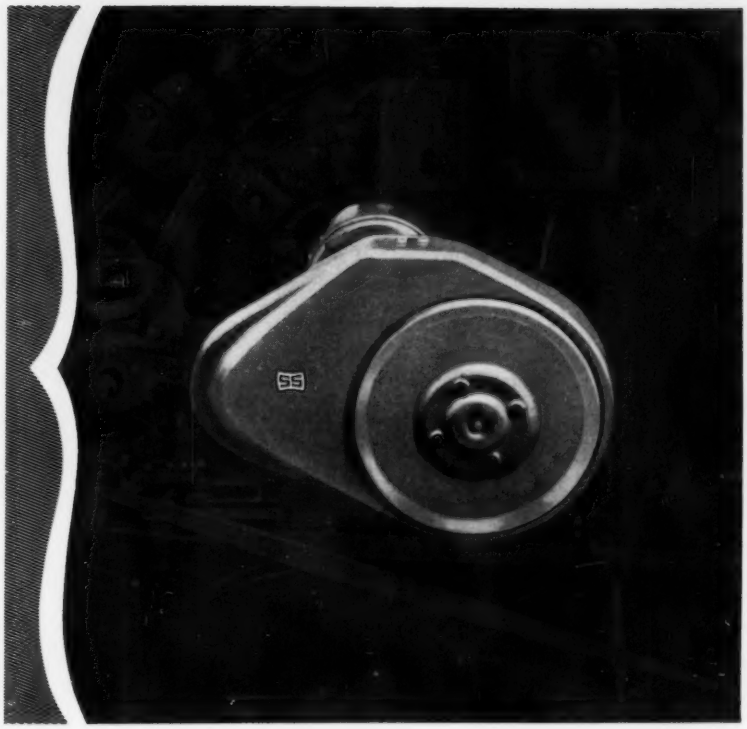
A drop of oil in time may save you a barrel of trouble.

Remember that wear and tear applies not only to your car, but also to your machines . . . and the periodic check-up of a valuable machine would be no more than the 1000-or-so mile check-up you INSIST on when it comes to your car, which might have cost only a fraction of what you paid for your machine.

Wash-and-Wear

More and more people are drip-drying and getting by with minimum care, and more and more readers are asking for reprints of the Wash-and-Wear feature from last November's TI. Latest to ask include **P. Hadley**, gen. mgr., Churchill Weavers, Inc.,

(Continued on page 22)



SOUTHERN STATES CD-2 CARD DRIVE COMBINES INTO ONE UNIT ALL OF THE FEATURES WANTED FOR COTTON CARDS

Here is why we honestly believe the Southern States CD-2 Card Drive is the safest, simplest, most efficient individual drive on the market today:

Finger-tip control. No changes in operating procedure. Unit is controlled by simple clutch lever in both starting and hand stripping.

Full speed in seconds. A 1½ hp high torque card motor brings card into full operation, seconds after clutch is engaged.

Safety engineered. All belts and moving parts are covered. Starting and idling is accomplished by simple clutch lever.

Rugged construction. The entire unit is built for heavy-duty service: steel main stand; cast iron jackshaft bracket and main pulley; cast aluminum cover. Ball bearing throughout.

Easy installation. Fits any cotton card. Minimum number of holes to drill in frame. Drive pulley, collar and clutch are preassembled and slip on to shaft using existing keyway.

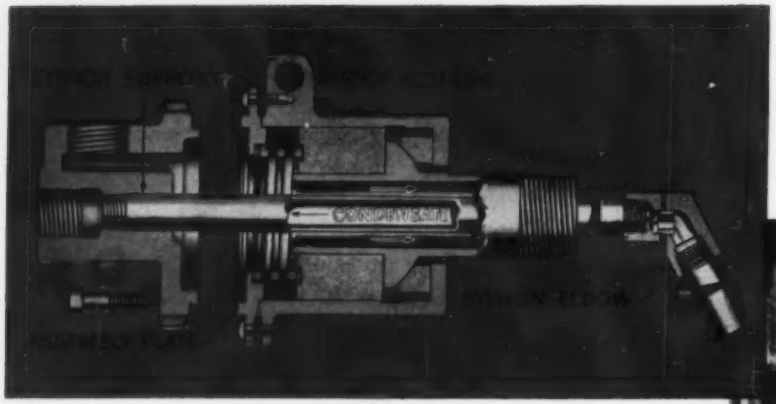
Get the facts from your Southern States representative or write for Bulletin 301-a.

SS

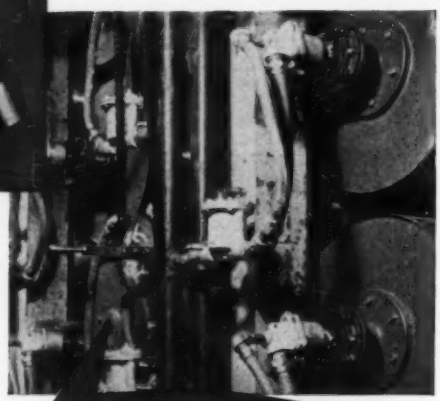
SOUTHERN STATES

EQUIPMENT CORP.

HAMPTON, GEORGIA



TYPE S-B2P Johnson Joint with Syphon Elbow. This is a completely self-supporting unit; the lug shown on body is for simple stop rod to keep joints from turning. Installation view shows these joints installed on dry cans.



These are the ones to use... { For 23" dia. Dry Cans and 30" dia. Slasher Cylinders

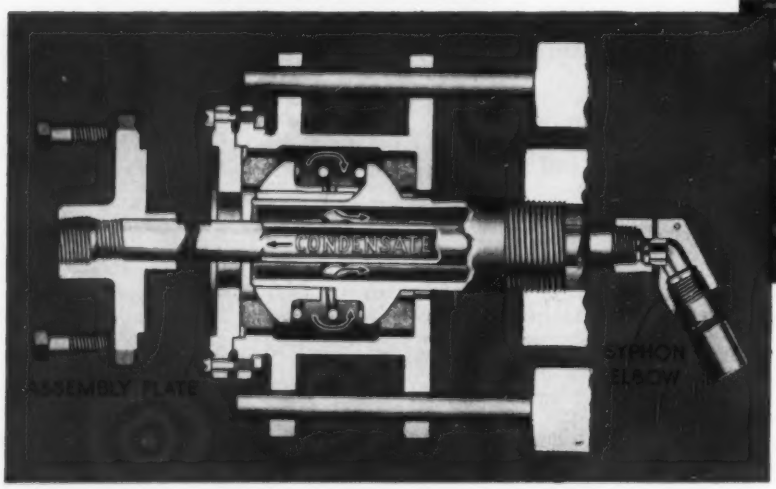
JOHNSON *Rotary Pressure* JOINTS with JOHNSON SYPHON ELBOWS

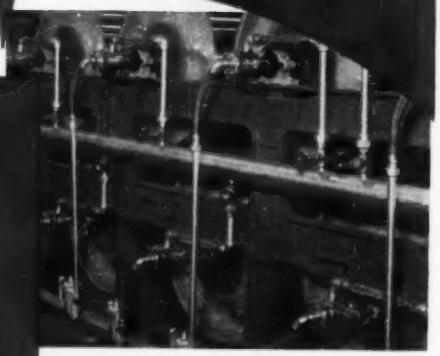
These two types of Johnson Joints have proved particularly suited for service on the newer 23" diameter Dry Cans and 30" diameter Slasher Cylinders. The Type S is completely self-supporting; the Type LJ is rod-supported from bosses provided by machinery manufacturers. Both types are completely packless, need no lubrication or adjustment.

Pictured with each joint is the Johnson Syphon Elbow, successor to the unwieldy curved syphon pipe. It hinges to pass right through the joint, seats of its own weight when in position, permits the use of two simple straight pipes for the syphon line. Special assembly plate is provided on joints so the head and syphon pipe can be removed without disassembling the joint.

Here's our offer—We will gladly furnish a pair of Johnson Joints for 90-day trial in your own mill, without cost or obligation to you. There are Johnson Joints for all operating conditions.

Write for full information



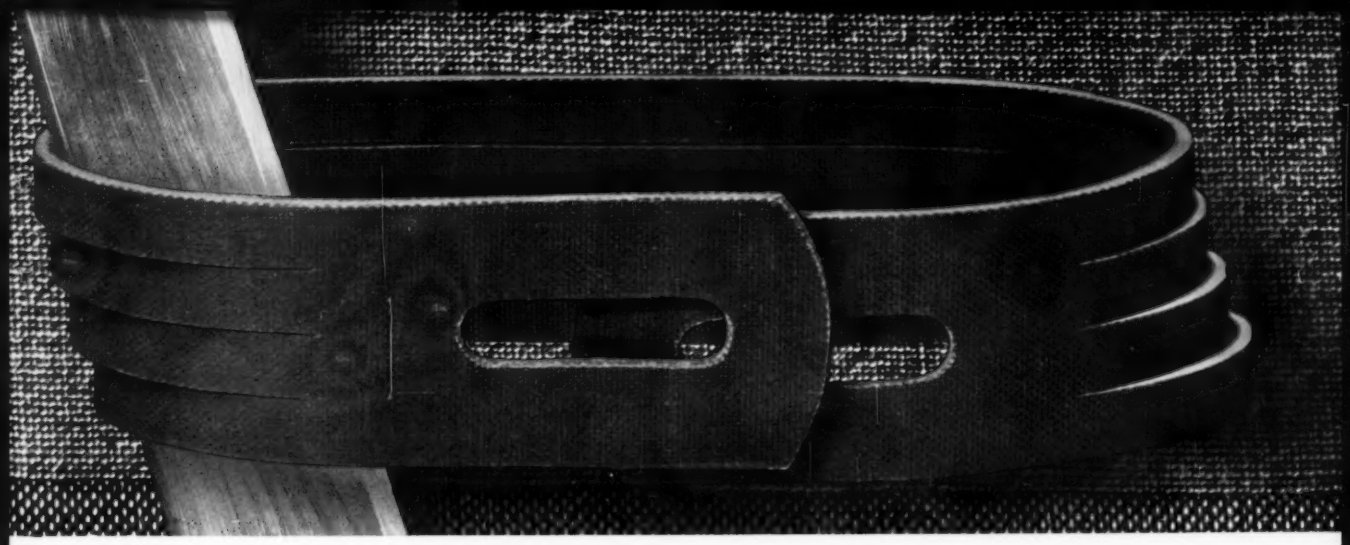


TYPE L-JSP Johnson Joint with Syphon Elbow. Has lugs on body for support rods, which carry all weight of body and connections, permit rotating assembly to "float" freely inside. Steam inlet is in side of body as shown in installation view of joints on slasher cylinders.

JOHNSTON FLUID POWER CORPORATION

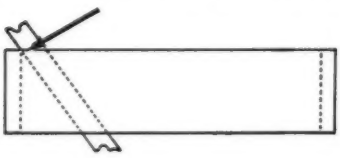
815 Wood Street, Three Rivers, Michigan

Rotary Pressure Joints • Direct Operated Solenoid Valves

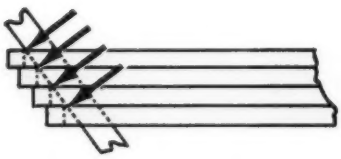


Gates 4-in-One Check Strap LASTS up to 3 TIMES LONGER

New Checking Principle is Secret of Longer Wear—



With the ordinary one-piece check strap, all shock and wear from the picker stick are concentrated at one point.



Gates 4-in-1 Check Strap is built with four separate bands. As the checking action begins, a portion of the picker stick force is absorbed by the top band—then in turn, the second, third and fourth bands each absorb a portion of the shock, providing a checking action that is smooth and even. Wear is distributed evenly over the entire width of the strap, increasing service life up to 3 times.

You Get These Important Benefits:

Unaffected by Changes in Humidity—no stretch or contraction—ready to go Monday mornings without time-consuming adjustments.

Stronger and Tougher than Leather—yet flexible and light in weight.

Absorbs Shock of Picker Stick—resilient and flexible—conforms to any action of the picker stick, absorbing blows and shocks.

Saves Installation Time—quickly installed and adjusted without removing picker sticks. No new brackets needed.

Competitive Price—even though Gates 4-in-1 Check Strap has many important advantages over ordinary straps, it is competitively priced. For faster, more economical production, equip your looms with *all* Gates *specially engineered* accessories . . . available from Gates Textile Distributors.

Gates Distributors are in the Yellow Pages

Gates

The Gates Rubber Company, Denver, Colorado

The Mark of *Specialized* Research

TPA-900

Take-up Roll Coverings
Card Bands
Cone and Evener Belts
Spinning Frame Drives

Reversible Pickers

Tex-Hide Harness Straps

Tex-Hide and Vulco Loop Pickers

Thin Tex, Vulco, Tex-Hide & Super Tex-Hide Lug Straps

Gates Textile Accessories

Here's how you can demonstrate

these simple tests show improved dispersibility . . .

C

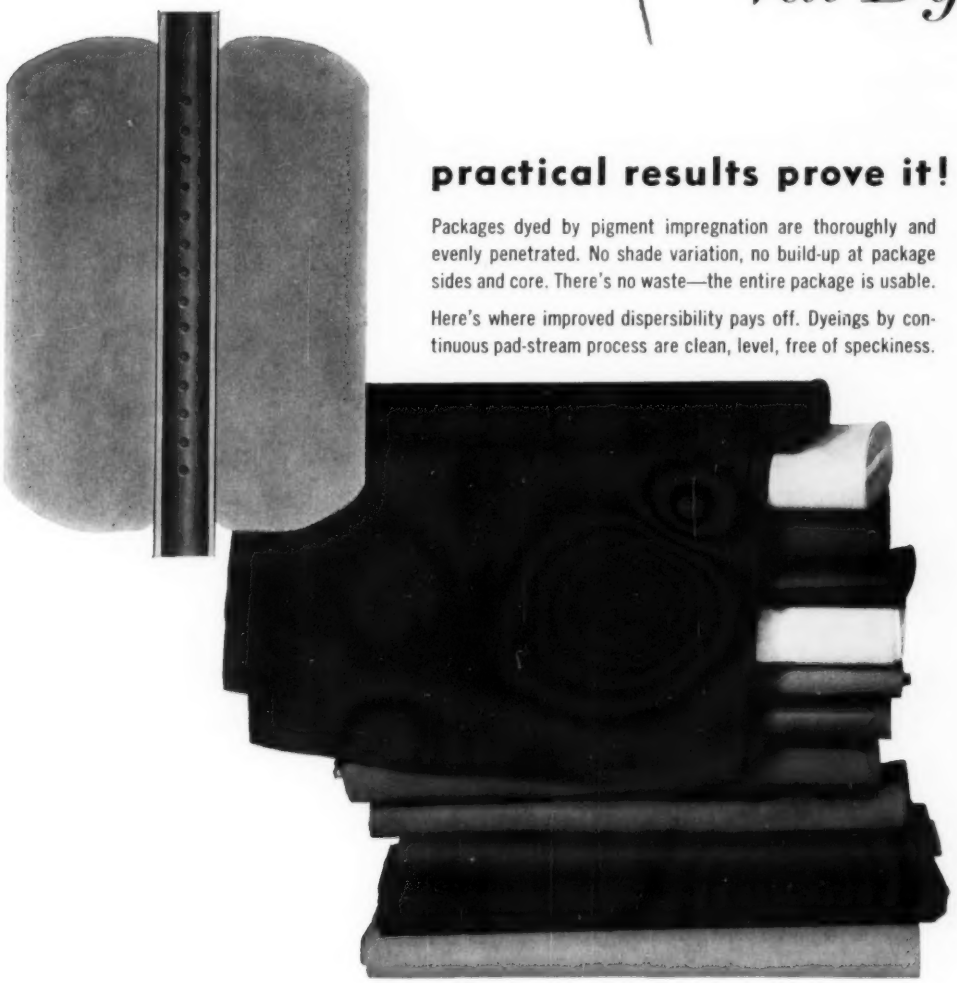
A Fine, uniform particle-size of typical Carbanthrene Vat Dye is shown in this photomicrograph (X20,000). Particles do not tend to lump together.

B Clean results in dyeing are forecast by sedimentation filter test. Typical Carbanthrene Dye passed through Buchner funnel leaves a minimum of residue on filter paper.

C Dilute pigment filter test is toughest of all. Leading mills require vat dye solutions to filter through in one minute. Virtually all of the modern Carbanthrene Dyes pass in less than thirty seconds!

Member of
VAT DYE INSTITUTE

the superiority of National® CARBANTHRENE® *Vat Dyes!*



practical results prove it!

Packages dyed by pigment impregnation are thoroughly and evenly penetrated. No shade variation, no build-up at package sides and core. There's no waste—the entire package is usable.

Here's where improved dispersibility pays off. Dyeings by continuous pad-stream process are clean, level, free of speckiness.

With modern Carbanthrene Vat Dyes, you produce cleaner, brighter and more level dyeings. Shades are more uniform, formulations readily reproducible time after time. There are fewer rejects and dye yields are often increased.

Here's why:

Unique manufacturing techniques developed by our Research and Engineering Center make Carbanthrene Dyes unexcelled for dispersibility. Filterable insolubles are at a minimum in both reduced and unreduced form. Dyes do not agglomerate in storage or in use.

You will find Carbanthrene Vat Dyes very well suited to your processing requirements, whatever application methods you use. Our representative will gladly arrange a trial in your mill.

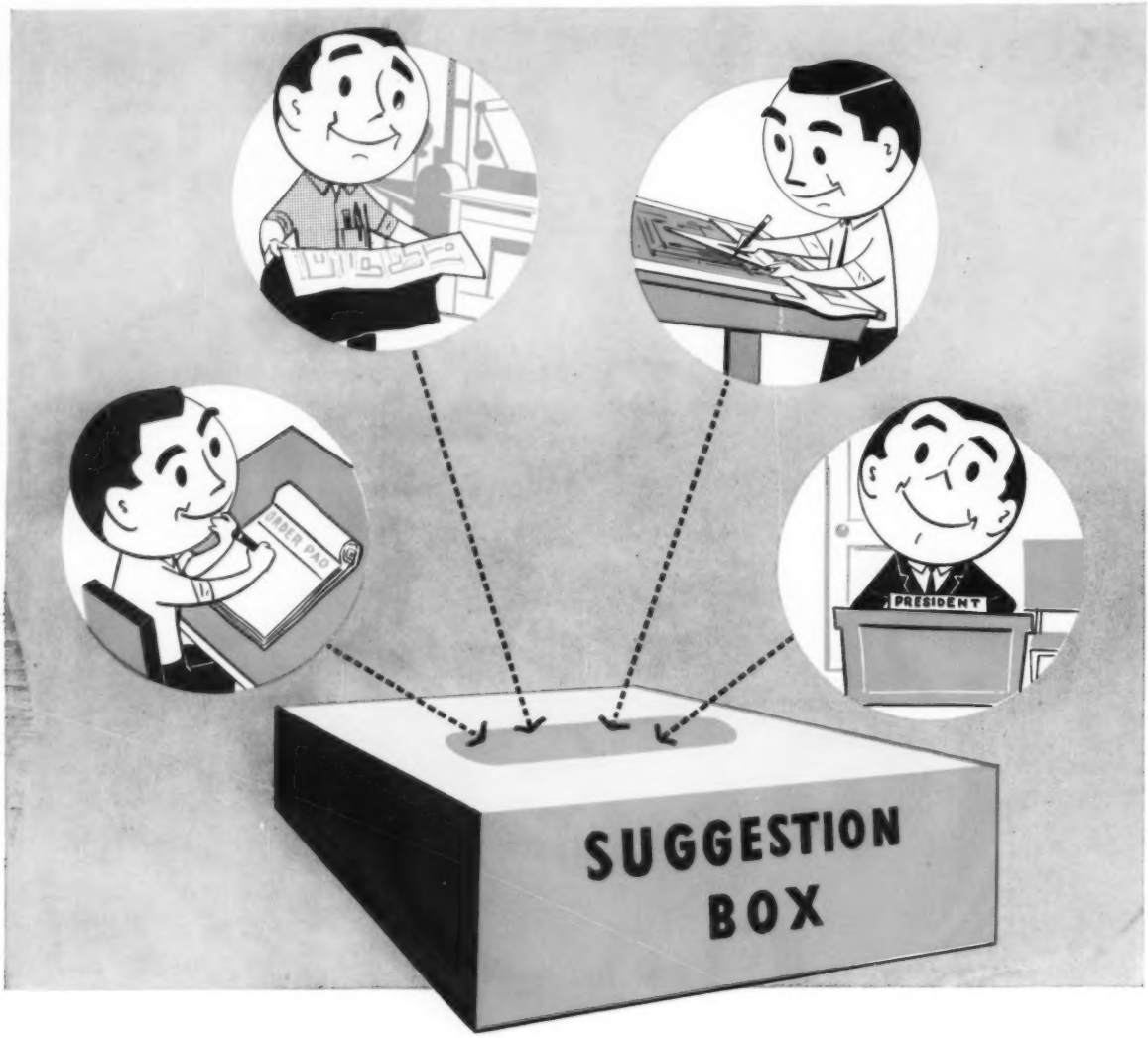
NATIONAL ANILINE DIVISION

40 RECTOR STREET, NEW YORK 6, N. Y.

Atlanta Boston Charlotte Chicago Greensboro Los Angeles
Philadelphia Portland, Ore Providence San Francisco

In Canada: ALLIED CHEMICAL CANADA, LTD., 100 North Queen St., Toronto 14

Allied Chemical



Your idea for a new machine, the improvement of an existing machine, or the increased efficiency of an operation may be completely ready for development, or only partially developed. It may come from production as well as R&D, from sales as well as engineering, from purchasing as well as management.

At Butterworth, you can get an objective evaluation of your idea — without obligation.

Butterworth offers a background of 139 years of machine-building experience — in textile finishing, synthetic fiber processing, plastics, special machines for processing industries, plus specialized knowledge and experience in electronics, atomic energy, and missile development.

The first step in making your ideas pay off is to write for our "Guide for Submitting Suggestions." It's yours for the asking.

BUTTERWORTH

H. W. BUTTERWORTH & SONS COMPANY

Division of Van Norman Industries, Inc.

BETHAYRES, PA. • SINCE 1820

Setting new standards in textile machine lubrication

NEW SHELL VEXILLA OILS

To assure high compatibility with today's synthetic fabrics, a completely new line of premium-quality textile machine lubricants has been developed—NEW SHELL VEXILLA OILS. These new oils are available in a wide viscosity range to satisfy all operating requirements.

Check these outstanding advantages:

1. Excellent Scourability—New Vexilla® Oils are *easily* and *readily* removed through conventional scouring procedures . . . completely eliminate oil stain problems.

2. High Oxidation Resistance—New Vexilla Oils contain special oxidation inhibitors to prevent increase of viscosity during service and storage. High viscosity index base oils minimize thinning out at high temperatures.

3. Eliminate Bearing Corrosion—New Vexilla Oils contain a newly developed rust inhibitor which keeps bearings *clean* and *free from corrosion.*

4. Non-Gummy—New Vexilla Oils contain no fixed oils such as lard, tallow and sperm oils to cause gumming. In automatic lubricating systems, they will not form harmful metallic soaps when in contact with zinc or copper.

5. Outstanding Wetting Properties—New Vexilla Oils offer superior metal-wetting properties because of the carefully engineered balance of components and polar character.

The Shell Industrial Products Salesman will be glad to show you how to reduce maintenance costs and assist in the selection of the appropriate grades for *your* plant operation. Write Shell Oil Company, 50 West 50th Street, New York 20, New York. In Canada: Shell Oil Company of Canada, Limited, 505 University Avenue, Toronto 2, Ontario.

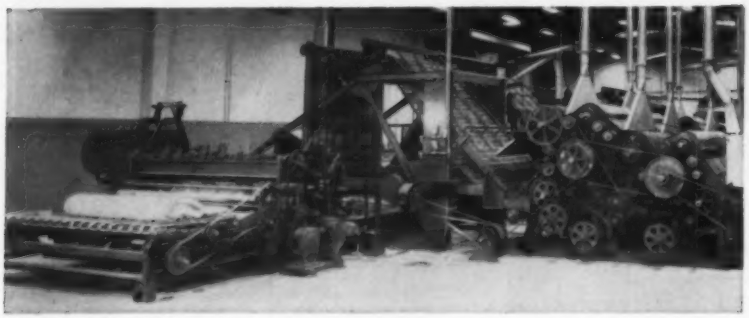
NEW SHELL VEXILLA OILS

. . . quality textile machine lubricants

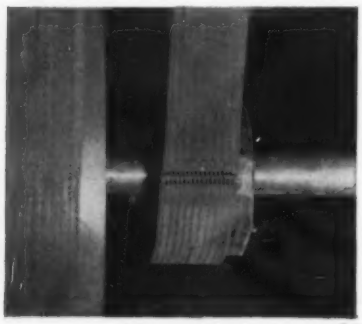
SHELL

"ENDLESS APRONS ARE HARD TO INSTALL"

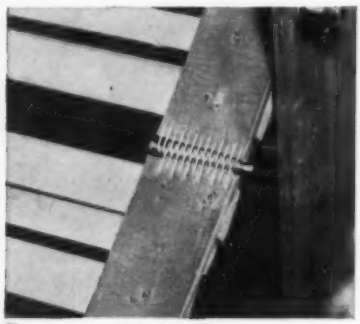
says E. M. HYDE, Project Engineer at Proctor & Schwartz, Inc.



A complete batt making line used in the manufacture of cotton batt for top quality mattresses. The unit is designed and built by Proctor & Schwartz of Philadelphia, Pa.



Close-up of Clipper lacing used on drive belt of feed in batt making line



Close-up of Clipper lacing used on a traveling apron in the line

CLIPPER Joints ease installation problem, are as flexible and durable as the belt itself

Feed belts and drive belts are easy to install when Clipper laced. Joints as smooth and durable as the belt itself are easily made by one man using Clipper method. Clipper lacers develop up to 45,000 pounds of pressure to imbed specially designed Clipper steel wire hooks flush with the belt. The strain is evenly distributed across the width of the belt and the joint is so smooth and durable that it operates well on both small and large diameter rollers.

When you have two ends to join, chances are you can join them easier with Clipper hooks and lacers. Any type of belting material in various widths and up to 13/32 inch thick can be laced faster and better by Clipper.

For more information — Detailed product information and case history examples of Clipper machine lacing benefits are contained in Bulletin No. 157. Send for your free copy today.

Ask your Industrial Distributor for Clipper Products

Clipper BELT LACER COMPANY

980 Front Ave., N. W., Grand Rapids 2, Michigan

SHORTS & REMNANTS

(Continued from page 15)

Berea, Ky.; **John A. Colburn,** supt. of fin., Duro Finishing Corp., Fall River, Mass.; **John J. Wall,** plant mgr., Albany Felt Co., North Monmouth, Me.; Popular Book Depot, Bombay, India, who wanted copy sent first-class air mail; **William J. Crawford,** Cranston (R. I.) Print Works Co.; and **Otto H. Grulke,** Coopers, Inc., Kenosha, Wis.

► Happy Hundredth Anniversary: The Stearns parallel motion for looms was introduced by Draper Corp. in 1859.

► We meant to tell you that Quaker Oats Co. was running a contest with a $5,000 first prize for suggesting the most significant and apt commercial use for its newly developed $CH_3COCH_2CH_2COOH$. But we slipped up—the contest closed March 1. However, if you have any ideas, we're sure that Quaker Oats will be glad to consider them. On the other hand, the patent office is still accepting entries.

Wash-and-Where

Associated Press reports from Omaha that Marie McAndrews of that garden city bought a pair of size 7½ imported kid gloves. Then her roommate accidentally put them in an automatic washer with other laundry. They went in GREAT BIG LIKE THIS, and came out tiny like this. Marie says she is going to have them bronzed and mounted on book-ends to remind her roommate how not to wash kid gloves.

Get Along, Little Doggerel

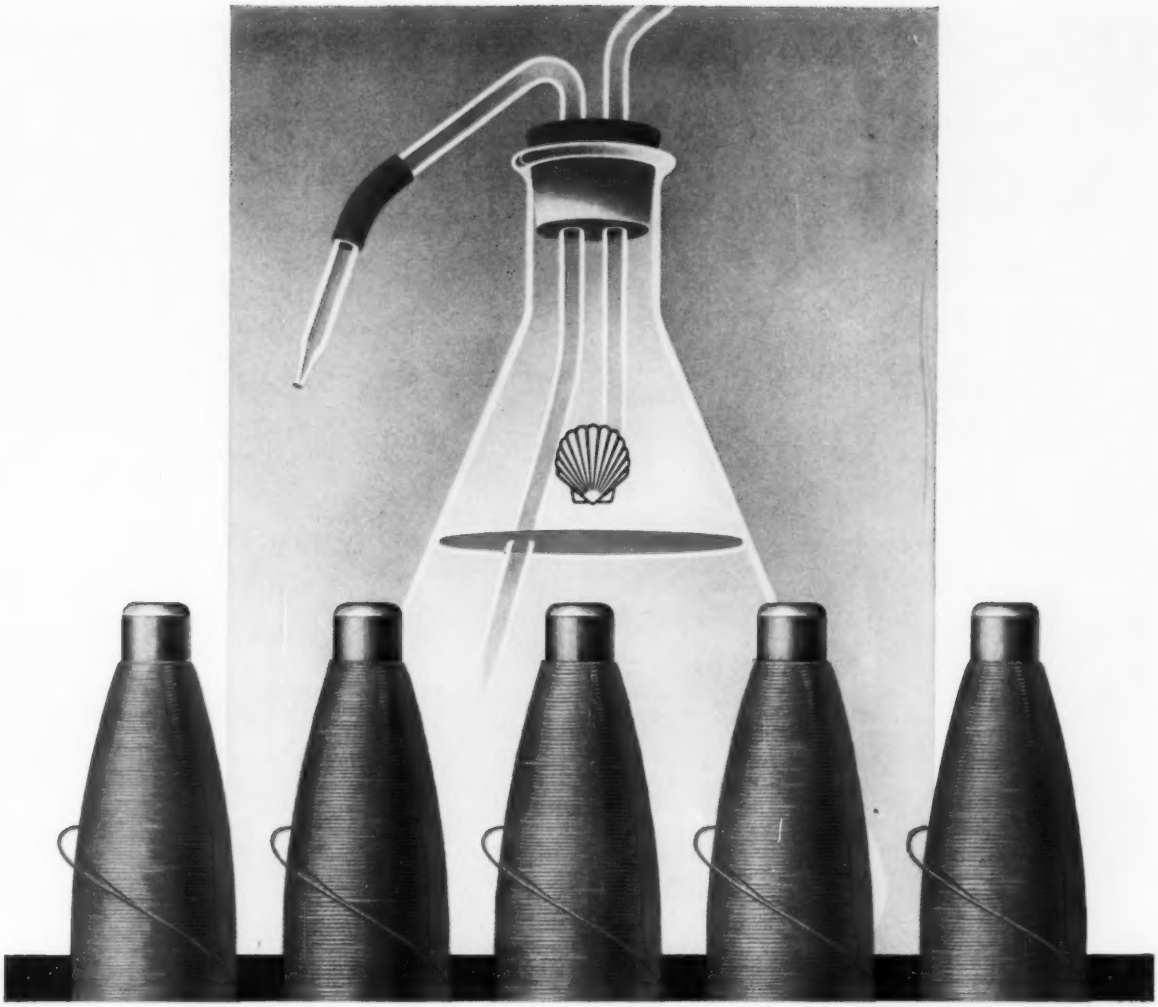
We've been pretty short on poetry recently. We probably still are, but here's one recited by **Dean Foster** of U. S. Testing Co. at a recent press conference. Excuse commercials. We'll bill U. S. Testing for the ad, and it does get so you can hardly find the price with all the other tags these days. Anyway, here it is:

This thought brings our meeting to an end.
The confusion in the trade we will try to mend.
We find "Rinse 'n' Ready" and "Touch and Go."
Are we selling shampoo or gas or Esso?

We see "Shirt 'n' Sweet" plus "Dri Smooth."
Is it a baby's bottom we wish to soothe?
When hang-tags say "Easy Care" or "Wash and Dry,"
Is it soap they want the consumer to buy?

We think the trade has gone far enough

(Continued on page 26)



How Shell Chemical serves the textile industry

Chemicals play a vital role in the textile industry. Having the right chemical for the job helps produce *better* fabrics. Shell Chemical is a convenient, dependable source for the chemicals listed at the right.

Hydrogen peroxide serves as a rapid, economical bleach and as an oxidizer for making vat colors brighter. Acetone is a spinning solvent for acetate rayon. Glycerine is a popular moistening agent for fibers and for textile printing compositions.

Eponite® 100 is a very effective, non-chlorine retentive resin for production of minimum-care fabrics. It imparts increased wrinkle resistance to cottons and rayons and reduces rayon shrinkage to a fraction of one per cent.

• • •

A Shell Chemical representative will be glad to discuss your specific needs. Write your nearest Shell Chemical district office for samples and technical literature.

Acetone
Eponite 100
Ethyl Alcohol
Glycerine
Hexylene Glycol
Hydrogen Peroxide
Isopropyl Alcohol
Methyl Ethyl Ketone
Methyl Isobutyl Ketone
Sodium Sulfonates

SHELL CHEMICAL CORPORATION
INDUSTRIAL CHEMICALS DIVISION

Atlanta • Chicago • Cleveland • Detroit • Houston • Los Angeles • Newark • New York • San Francisco
IN CANADA: Chemical Division, Shell Oil Company of Canada, Limited, Montreal • Toronto • Vancouver

SHELL

Any dyer, purchasing agent, chemist or mill official knows the value of purity — in both the purchasing of raw materials and the processing of the finished product.

Take salt, for example. About one-half its cost is freight! So, they say: "Why pay for shipping unwanted impurities?" And the fact is — you can't buy a purer rock salt than Jefferson Island.

For all salt needs — rock or CMF (Calcium Magnesium Free) — most companies call The Man from Diamond Crystal. Why don't you? He has the facts, the proof, the service.

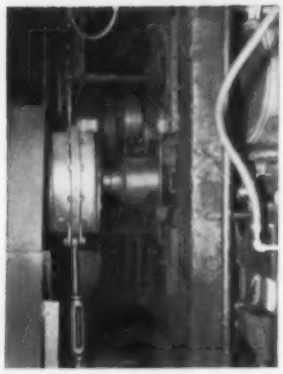
Diamond Crystal Salt Co., St. Clair, Michigan

Plants located at Akron, Ohio;
Jefferson Island, Louisiana; St. Clair, Michigan.

Jefferson Island DIV.

DIAMOND CRYSTAL SALT CO.

SAVE SPACE AND REDUCE COSTS . . . . .



WATER MANGLE AND 20 DRY CANS are driven by 3 Lovejoy single-reduction shaft mounts in this highly compact installation. 10-hp. unit in foreground drives mangle at 4.80:1 ratio, 168 rpm. output speed. One of two 7.5-hp. units driving dry cans at 4.35:1 ratio, 87.5 shaft speed is seen in background.

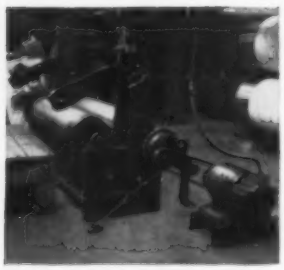
That's What Mill Operators Say About Lovejoy Shaft Mounted Reducers

These photographs, taken in typical Southern textile mills, show how Lovejoy Shaft Mounted Gear Reducers are used to achieve compactness, economy, and maintenance savings:

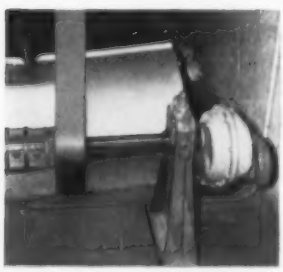
First, they provide a direct drive, eliminating shaft couplings and bulky supporting structures to save money, as well as space. Second, they reduce maintenance, because alignment is not required and belt tensioning is greatly simplified. Third, they are available in a wide range of models to provide the proper speed, horsepower and ratio most efficient for each particular operation—*and they cost less than other shaft mounted gear reducers.*

Lovejoy Shaft Mounted Gear Reducers are available from stock in 18 models—8 to 425 rpm., fractional to 120 hp. and 4.5:1 nominal ratio (single reduction), 14.7:1 nominal ratio (double reduction).

Request Catalog R-58. Give application data for specific recommendations from Lovejoy's engineering staff.



SEPARATE MOUNT IS NOT NEEDED, since this Lovejoy double-reduction unit mounts directly on drive shaft and is anchored on tie rod. It drives cloth winder from a 2-hp. dc. motor at 14.5:1 ratio.



KEEPING AISLES OPEN FOR TRAFFIC is critical at this dyehouse wash range. Compact 5-hp. Lovejoy shaft mount was selected to drive cloth winder. Shaft speed is 100 rpm., ratio 14.70:1.

LOVEJOY FLEXIBLE COUPLING CO.

4850 WEST LAKE STREET • CHICAGO 44, ILLINOIS

SHORTS & REMNANTS

(Continued from page 22)

In getting Mrs. Public all mixed up.
About this confusion we say "Cut it out."
Accept our standards and spread them about!

We have two seals: one "Wash and Wear;"
For garments not perfect, "With Minimum Care."
All manufacturers will be checked by us,
We'll reduce to zero most of the fuss.

If "Drip'n Dry" and "Wet'n Wet,"
Anyone here want to bet?

Beauty Meets Brain

► Here we have Maid of Cotton Malinda Berry, Oklahoma State University beauty and Dean's List scholar, eyeing the control panel of Univac computer during visit to Remington Rand Computing Center

in New York. Univac is reported to have drawn a picture of a cotton bale for her, but blew a fuse when asked to predict the future of the cotton industry.

Malinda is now off on a five-month world tour on behalf of cotton.

Got Left Out

". . . very disappointed that Dawbarn Brothers was not mentioned . . . in regard to polypropylene fibers [in 'Textile Research Achievements in 1958', TI for Feb., p. 105] . . . For several months now we have been offering DLP 51 and DLP 61 polypropylene filaments for cordage and fabric applications. We believe that our material is the only polypropylene yarn sufficiently stabilized against loss of strength for automotive and outdoor applications . . ."

C. T. KENNEDY
V-P and Ch. Engr.
Dawbarn Bros., Inc.
Waynesboro, Va.

► Glad to set the record straight.

Steeple News

A recent communique from W. C. Howe, advertising manager of Crompton & Knowles Corp., enclosed a

(Continued on page 30)

At this mill 30,000 spindles run clean and free with Gulfspin...

GULF MAKES THINGS RUN BETTER!

Ask the people who operate the Amerotron Company's throwing plant in Williamston, South Carolina, whether Gulf makes things run better. They can show you 30,000 spindles running clean and free on Gulfspin, 7 days a week, and often at speeds exceeding 16,000 rpm.

"Under these conditions, our operating costs would be astronomical if our lubrication wasn't up to scratch," says an Amerotron executive. "With an inferior oil, the high speeds, heat and wear would tend to build up sludge and gum residues on spindles, bolsters and in spindle bases. We avoid all that by using Gulfspin—which has been our spindle lubricant for over 5 years."

In addition, Gulfspin helps Amerotron cut their costs by keeping the spindles running free—without waste of electrical power.

Gulfspin can save *you* money, too. It's oxidation stabilized to resist sludge formation. It prevents contaminants from depositing in spindle bases. It provides effective protection against rust. And, it does not increase in viscosity even after many months of service. For more information, call your nearest Gulf office.

GULF

GULF OIL CORPORATION • Dept. DM, Gulf Building • Pittsburgh 30, Pennsylvania

Announcing the New Dayton

Golden Thorobred Drop Box Picker

Amazing Synthetic Picker Lasts Up to 10 Times Longer, Multiplies Loom Savings!

You can now enjoy tremendous savings in loom downtime and picker replacement cost, with *new* Dayton-made Golden Thorobred Drop Box Pickers. During long, thorough testing, Golden Thorobred Drop Box Pickers have operated up to 10 times longer than conventional pickers, and in many cases are still running.

Furthermore, Golden Thorobreds require no oils or dressing . . . they won't abrade the picker stick, thereby extending its life . . . and they have an almost perfect cushioning action that preserves the shuttle from wear.

Because of their shock-absorbing resilience, Golden Thorobreds, too, help greatly to diminish the noise level on looms. And when a changeover does become necessary, Golden Thorobreds box with notable ease . . . for your further savings in labor and downtime.

Cleaner, cooler, quieter, longer running . . . Dayton Golden Thorobred Drop Box Pickers assure you outstanding performance and remarkable savings. Enjoy these new, high standards of wear-resistant operation . . . the result of six years of Dayton research and testing in synthetic elastomers. Golden Thorobreds are now available at your local Dayton jobber's . . . or write The Dayton Rubber Company, Textile Division, 401 South Carolina National Bank Building, Greenville, S. C.

Dayton Rubber

Dayco and Thorobred Textile Products for Better Spinning and Weaving

OVERSEAS PLANT, THE DAYTON RUBBER CO. LTD., DUNDEE, SCOTLAND

SHORTS & REMNANTS

(Continued from page 26)

leaflet giving details of the construction, shipment, and erection of a church steeple made by C & K's affiliate, Carl N. Beetle Plastics Corp. Mr. Howe was good enough to offer us glossy prints of the whole affair, but even though TI prides itself on bringing its readers a finer assortment of this-and-that than almost anybody else, we had to decline, regretfully, because our church steeple and pogo stick department had nary an inch of space left.

► A bemused reader asks of nobody in particular, "Why do birds fly South in the winter?" then answers his own question in a brilliant flash: "Because its too far to walk!"

► And a sign in the window of a laundry in northern New Jersey says, "We are not responsible for laundering wash-and-wear garments."

HARTFORD
Can Do It
For You, Too

HARTFORD

is equipped to handle any spindle problem with "Job Adapted" Spindles and Parts.

WHAT IS YOUR PROBLEM ?

100% American Engineered, Manufactured and Serviced

HARTFORD-GREENVILLE DIVISION

STANDARD SCREW COMPANY

Box 1776 Greenville, S. C.

Likes New Format

". . . hits me in the eye, especially the new format used for the table of contents. It is a pleasure going through the contents, and picking out the articles I want to read. You may not know it, but you people deserve a medal. . ."

DR. LELAND S. LIANG
Dept. of Bus. Adm.
The City College
New York, N. Y.

Got Help

". . . in the February issue of TEXTILE INDUSTRIES [p. 11] you had an item regarding our interest in the automation of bed and pillow case manufacture. . . want to inform you that we have received a letter from Mr. D. A. Boston of North Dartmouth, Mass., who apparently has exactly the experience we are interested in. . ."

ORRIN S. McCORISON
Mead Carney Intl. Corp.
New York, N. Y.

Miscellaneous Wants

More information on drying ovens described in TI's 1958-59 Annual Product Parade—**James E. Robinson, Jr.**, asst. supt., Washington Mills Co., Fries, Va.

Further information on Moretex Chemical Co. ad (January)—**William R. Etchells**, finishing specialist, American Thread Co., Willimantic, Conn.

Copy of TI's Man-Made Fiber Chart —**J. R. Sidley**, methods engr., Davies Coop & Co. Ltd., Melbourne, Australia.

Name of maker of portable bleach meter (TI for Dec., 1958, p. 91)—**Sol Aronoff**, v-p, Commercial Dyers & Bleachers Ltd., Montreal, P. Q. It's made by Dr.-Ing. Heinz Mahlo Elektromechanische Werkstatten, Saal (Donau), West Germany.

More information on C.M.I. industrial vacuum cleaner—**R. G. Holyfield**, Renfro Hosiery Mills, Mt. Airy, N. C.; **Jimmy Rogers**, spinning foreman, Martha Mills, Thomaston, Ga.; **W. Glenn Slaughter**, supt., Grabur Throwing Co., Graham, N. C.; among others.

Further information on "Lestoil"—**W. E. Harris**, Seminole Mills, Clearwater, S. C.

Who puts a matte finish on machine parts? (TI for Feb., p. 144)—**Thomas F. McHugh**, supt., Watatic Spinning Mills, Fitchburg, Mass.

Where to get sueding equipment—**T. Connell**, master mech., Palatine Dyeing Co., St. Johnsville, N. Y.

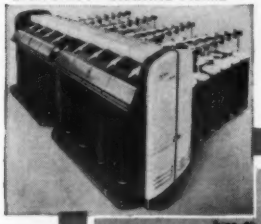
More information on metal detector (RCA)—**Leroy Linscott**, Olson Rug Co., Chicago, Ill.

(Continued on page 36)

The WHITIN SUPER J's New Running Mate-

the SUPER LAP machine

WHITIN
EVEN-DRAFT* DRAWING FRAME



WHITIN SUPER J* COMBER

The new Whitin Super Lap machine heralds a major advance in cotton processing. Running-mate to the famous Super J Comber, the Super Lap and the new Whitin Super Lap Preparation Method* hold promise of material savings in the making of combed yarns thru improving yarn quality, increasing Comber production and reducing Comber waste.

The Super Lap was specifically designed by Whitin Research engineers to implement a new concept in preparing Comber laps — the Whitin Super Lap Preparation Method — in which card sliver is first processed on the Even-Draft Drawing and then formed into laps by the Super Lap. This sequence of operations results in the superior lap in which all hooked and bent fibers have been straightened and made parallel — then on to the Super J Comber.

*(Pat. applied for)

Through this new method Whitin offers you these competitive advantages:

- **Lap production 500 lbs./hr. — 35 lb. laps from 60-end can feed.**
- **Up to 3% reduction in noils.**
- **Lap weights up to 1000 gr./yd. permit increased Comber production. (20-25%).**
- **Straightened and parallel fibers in lap afford easier combing.**
- **Recommended total draft 24-32.**
- **Improved yarn quality.**

For complete information see Whitin representative or write us direct.

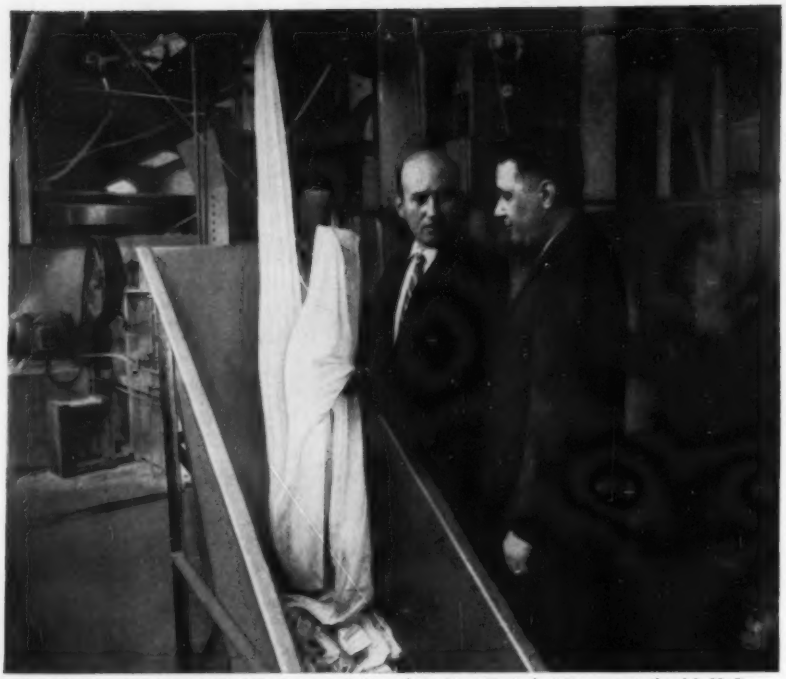
WHITIN MACHINE WORKS

*TRADE MARK

WHITINSVILLE • MASSACHUSETTS

CHARLOTTE, N. C. • GREENSBORO, N. C. • ATLANTA, GA. • SPARTANBURG, S. C. • DEXTER, ME.

Another mill converts to Du Pont's exclusive Solo-Matic Bleaching Process...



• Harodite Vice President Alfred E. Gutman (left) and Du Pont Technical Representative M. H. Rowe inspect finished bleached goods prior to drying step. Over-all bleaching costs were cut 25% after switch to Du Pont Solo-Matic Hydrogen Peroxide Bleaching Process.

Harodite Finishing Company doubles production ...cuts over-all bleaching costs 25%

Latest addition to the growing list of mills profiting with the Du Pont Solo-Matic Bleaching Process is the Harodite Finishing Co., N. Dighton, Mass.—well-known producer of cotton goods.

Harodite reports a 100% increase in production with no increase in labor or utilities costs, and no additional investment in capital equipment. The continuous, single-stage Solo-Matic Process has reduced downtime . . . cut over-all bleaching costs 25% over the former two-stage peroxide system. In addition, Harodite found that bleaching quality was maintained, and change-over to Du Pont's simplified process required no extra floor space!

As in every conversion, Du Pont Technical Representatives made a thorough plant survey, then presented their recommendations on how the Solo-Matic Process could best meet Harodite's needs.

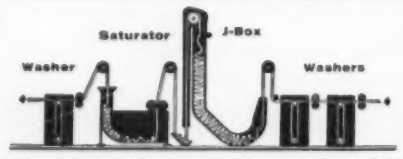
You, too, can profit with Du Pont's Solo-Matic Process

Du Pont will show you how you can cut production and utilities costs while improving quality and output of your cotton goods. The versatile Solo-Matic Process can *double* your production in the same floor space, or maintain the same production in *half* the space . . . with either new or existing equipment. In any case you can count on improved brightness, fullness and uniformity in your product. Get all the facts on the Solo-Matic from your Du Pont Representative or write to E. I. du Pont de Nemours & Co. (Inc.), Electrochemicals Dept., Wilmington 98, Delaware.

DU PONT
REG. U.S. PAT. OFF.

ALBONE® hydrogen peroxide

BETTER THINGS FOR BETTER LIVING...*THROUGH CHEMISTRY*



Du Pont's Solo-Matic Process—the most advanced single-stage hydrogen peroxide bleaching process available.

DON'T CONFUSE THE SOLO-MATIC WITH ANY OTHER PROCESS!

Other processes may *sound* similar, but there is *only one* Solo-Matic Bleaching Process and it was developed by Du Pont. It is essentially a chemical technique that can easily be adapted to any existing or new continuous peroxide bleaching installation. The Du Pont Solo-Matic Process is helping more than twenty-five well-known mills improve bleaching quality, cut costs.

PROVE QUALITY BY THE SPECTOGRAPH TEST

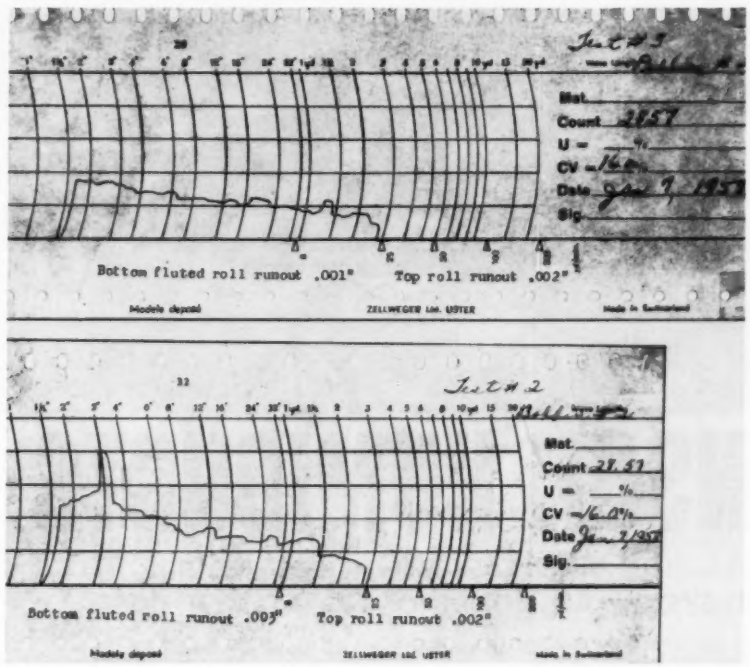
HIGH DRAFTS REQUIRE PERFECTLY FLUTED ROLLS WITH A MINIMUM OF RUNOUT.

F. A. YOUNG'S PERFECTLY FLUTED STEEL ROLLS WITH .002 RUNOUT GUARANTEED.

QUALITY YARN DEPENDS ON QUALITY ROLLS — KNOW YOUR ROLLS
TRY THE SPECTOGRAPH TEST

Following are the results of two spectograph tests.

Draft of 46—same roving—same cradle—same top rolls (nyaf® Anti-friction)



Test #3, taken with new F. A. Young steel rolls using same drafting and roving as in Test #2. Bottom Fluted Roll Runout one thousandth of an inch (.001)

(Tests show that 80% of OUR New Rolls have runout of .001 or less.)

NOTE:
Same Top Rolls used in both tests having runout of two thousandths of an inch (.002)

Test #2, taken with Bottom Fluted Roll having runout of three thousandths of an inch (.003)

IMPROVED MANUFACTURING PROCESSES ENABLE F. A. YOUNG MACHINE COMPANY TO GUARANTEE NOT OVER .002 RUNOUT ON INDUCTION HARDENED, FLUTED STEEL ROLLS.

QUALITY ROLLS PRODUCE PATTERNLESS YARN

F. A. YOUNG MACHINE CO.

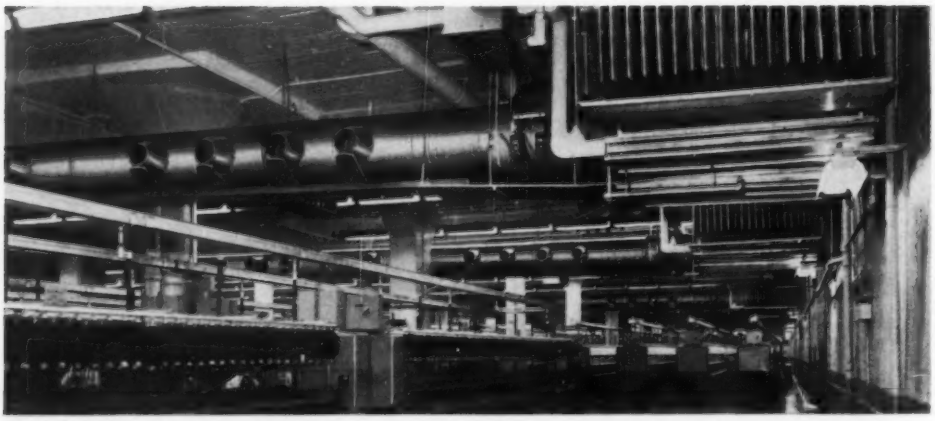
Telephone UNiversity 5-8556 — GASTONIA, NORTH CAROLINA

QUALITY & SERVICE Y MINIMUM COST

FLUTED ROLLS FOR SPINNING • FLYER FRAMES • COMBERS • DRAWING & LAP MACHINES • NYAF

DAN RIVER'S
1st CHOICE 5 TIMES

Says BASIL D. BROWDER
Executive Vice-President
Dan River Mills, Danville, Va.



BAHNSON HUMIDUCTS

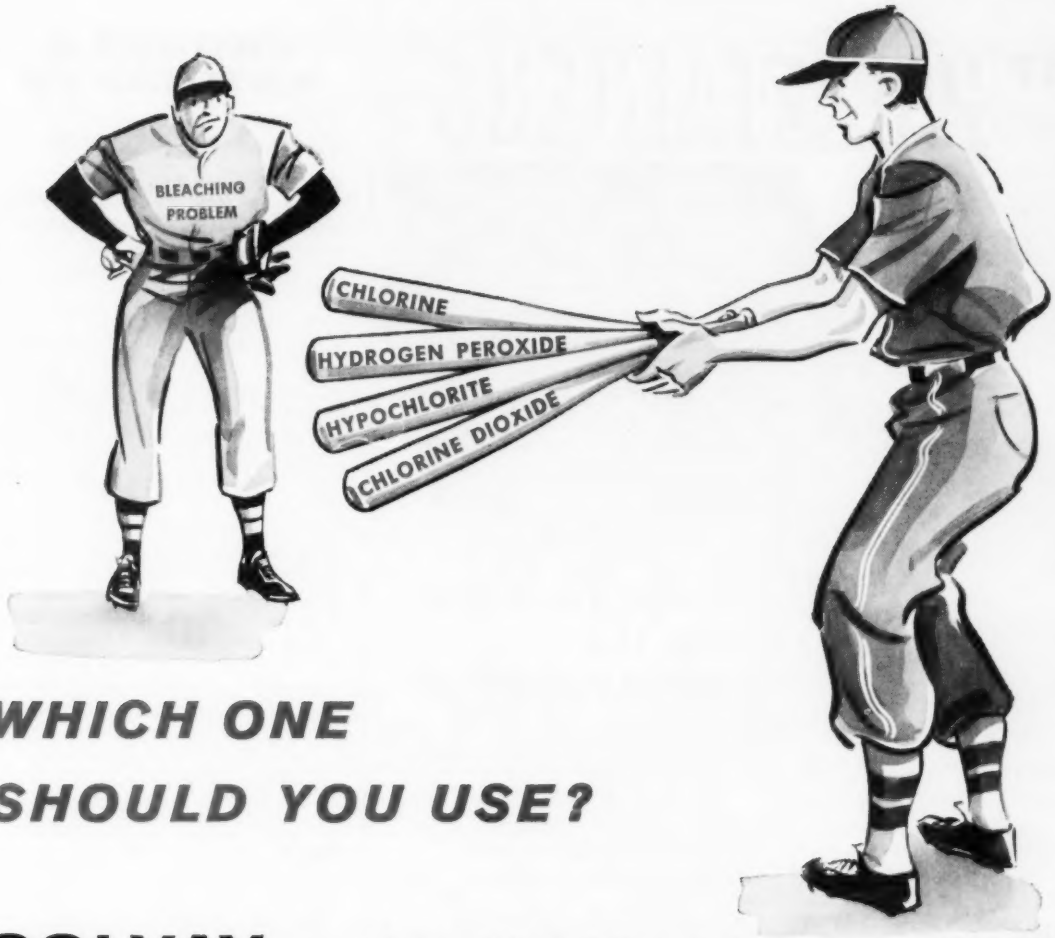
WITH REFRIGERATION AND EASY-FLO FILTERS PROVIDE FLEXIBLE UNIT-SYSTEM AIR CONDITIONING AT LOW COST

Free Illustrated Bulletins
For full details write for Humiduct Bulletin 4A, Easy-Flo Bulletin 27A.

"Five times in our decade of modernization," says Mr. Basil D. Browder, "we chose Bahnson Humiducts for Spinning and Weave Rooms at Dan River. Humiduct's versatile unit design gives us control flexibility for production requirements . . . Easy-Flo Filters provide clean air, reduce cleaning time . . . overtime maintenance is eliminated with Humiducts. We found that Humiduct's low first cost and efficient operation gave us the most modern and economical air conditioning for our needs."

Bahnson AIR-O-MATION
AIR AT WORK FOR INCREASED PROFITS

THE BAHNSON COMPANY
WINSTON-SALEM, N.C., U.S.A.



WHICH ONE SHOULD YOU USE?

SOLVAY – with all 4 bleaching methods – can help you make the best choice

SOLVAY—the one producer offering all four bleaching methods—can give you objective guidance in choosing the method or methods best suited to your needs.

SOLVAY service also includes practical application aid by field technicians from our specialized, industry-wise Technical Service, authoritative literature and the research facilities of the nation's largest alkali laboratories.

All this is yours at no extra cost—with SOLVAY products that have established a 77-year tradition of quality leadership.

Sodium Nitrite • Calcium Chloride • Chlorine • Caustic Soda • Caustic Potash
Chloroform • Potassium Carbonate • Sodium Bicarbonate • Methyl Chloride
Soda Ash • Ammonium Chloride • Methylene Chloride • Monochlorobenzene
Vinyl Chloride • Para-dichlorobenzene • Ortho-dichlorobenzene • Ammonium
Bicarbonate • Carbon Tetrachloride • Snowflake® Crystals • Hydrogen Peroxide
Aluminum Chloride • Cleaning Compounds • Mutual® Chromium Chemicals

Allied Chemical

SOLVAY PROCESS DIVISION
61 Broadway, New York 6, N. Y.

SOLVAY branch offices and dealers are located in major centers from coast to coast.

Write now for literature or technical assistance

SOLVAY PROCESS DIVISION
ALLIED CHEMICAL CORPORATION
61 Broadway, New York 6, N.Y.

BQ-49

Please send me at no cost literature on:
☐ Chlorine ☐ Hydrogen Peroxide ☐ Hypochlorite

☐ Please have your representative contact me about my bleaching problem.

Name_____
Position_____
Company_____
Phone_____
Address_____
City_____ Zone_____ State_____

USP PALLETAINERS®

Typical of the custom-built Textile Palletainers, these units are equipped with half-side, drop-gate for easy accessibility to contents and caster mounted for easy floor maneuverability.

Another interesting example is this (26"x38"x32") unit—selected by several plants as the best "standard" size for general floor operations.

NOW

CUSTOM-BUILT for the TEXTILE INDUSTRY

Lightweight Sizes and Types to Meet All Needs for Processing, Storage, Interplant Transport and Shipping
Special Snag-Proof Finishes Over Steel Mesh
Safe Stacking . . . Fold-Down and Castered Models

TEXTILE PALLETAINER Applications are Unlimited!

- Contents always visible—always protected
- Stack safely—save floor space
- Higher Capacities—less tare weight
- Smooth, sturdy steel mesh—special plastic, lacquer or paint finishes
- Drop sides, ends or gates—accessibility
- Reinforced deck base—safe lift truck handling
- Fold-down features for freight savings

USP Palletainers are available in pre-engineered, custom-built models to meet Textile Industry application requirements.

Textile Palletainers offer modern container advantages plus unit-handling methods, safety, special protective finishes—and the simplicity of space-saving storage or rapid movement and shipment of unitized loads. Textile Palletainers are rapidly revolutionizing handling methods for in-work storage of cones, springs, quiller bobbins—even delicate yarns. Palletainers, with protective liners, have proven invaluable for threads through all stages of wet and dry finishing, storage and shipment.

This plant saves valuable floor space by stacking their Textile Palletainers during processing and storage operations.

Write Today... for complete information and prices on USP Textile Palletainers to meet your need.

Regular Heavy Duty Hi-Lode Palletainers are immediately available in a wide range of standard sizes, types and capacities to 6000 lbs. per unit.

PALLETAINERS ARE MANUFACTURED EXCLUSIVELY BY:

UNION STEEL PRODUCTS CO.

630 N. BERRIEN ST. ALBION, MICHIGAN

Manufacturing plants also in Compton, Calif. and Waterloo, Quebec, Canada

SHORTS & REMNANTS

(Continued from page 30)

Tariff 50 Years Ago

In April, 1909, the House Ways and Means Committee was considering proposed revisions of the tariff on imported cotton goods. Commenting on the proposals in TI, Editor Kittredge said, "Under such an act, there is no reason why the cotton manufacturing industry in all of its present and possible aspects, should not be able to easily defy foreign encroachment upon the American market, except for goods that are not made here." Back to William Howard Taft!

Also from 50 years ago: Dacotah Cotton Mills had been incorporated in Lexington, N. C., and construction had started on an 8,208-spindle, 250-loom mill; Inman (S. C.) Mills Co. was erecting a 78' x 237' addition to the mill; Elk Cotton Mills, Fayetteville, Tenn., was adding 6,000 spindles to double productive capacity; and the Florida-American Silk Farm was incorporated with a capitalization of $50,000 at MacClenny, Fla., to "cultivate silk worms, spin silk, etc."

Wants "Warp Sizing"

"Appearing some time ago in your magazine was a series of articles on 'Warp Sizing' which we understand is now published in book form."

JOSEPH F. DONNARY
Lockwood Greene Engrs. Inc.
New York, N. Y.

► Yes, "Warp Sizing," by Paul V. Seydel, is now available as a 505-page book, which you can get with a new or renewal two-year subscription to TEXTILE INDUSTRIES at the special rate of $5.00. Incidentally, *Journal of the Textile Institute* reviewed "Warp Sizing" in its Jan., 1959, issue. The reviewer, Eric H. Jones of the Shirley Institute, says, "Dr. Seydel has produced a book which should undoubtedly be in the hands of all those who are interested in modern warp-sizing techniques and equipment."

Tepee Textile Mills

"I operate an Indian Trading Post on the Navajo Indian Reservation and buy considerable wool. I am looking for a machine to convert this wool into 3 and 4 ply yarn for blanket making at not too much expense. . ."

D. E. JACOBS, SR.
Canyon Diablo Trading Post
Winslow, Ariz.

► That's that until May, when we'll be back with a special feature on tufted textiles.

Staley's presents:

Weavers Through The Ages

France...14th Century

The power and political influence of these great artists in fine textiles helped shape the destiny of France.

In the early 14th century, fine fabrics were among the most important staple products. The Flemish weavers who produced them were a haughty and powerful group. They were, in fact, a very potent force in the movement which ultimately led to the final overthrow of feudalism in France. These weavers, the artists of all time in fine textiles, used a starch sizing to give lustre and freshness to the lovely cloth they wove. That, in a day when knighthood was still in flower.

Today's knights and ladies, too, demand and are satisfied with only the finest of fabrics. Quality is the watchword. Nothing less will do. And because of these precise, exacting demands, textile men everywhere rely on Staley and Staley products to help them produce the fabrics to meet the most discriminating of tastes.

From Staley's extensive textile research and unsurpassed technical service to a complete line of starches, gums and dextrins second to none—the Staley name spells *quality textiles.*

So whatever your requirements, whether for tailor-made products or expert assistance for a perplexing problem in sizing, printing or finishing, Staley stands ready to serve. Call us next time, won't you?

A. E. Staley Mfg. Co., Decatur, Illinois

Branch Offices: Atlanta · Boston · Chicago · Cleveland
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IS IT TIME TO RENEW YOUR SUBSCRIPTION?

Future issues of TEXTILE INDUSTRIES will have many articles and features that will help you and your company. During this time of competition in the textile field you will want to have every help possible to enable you to secure knowledge about your job, and increase your value to the company.

No doubt you have used the pages of TEXTILE INDUSTRIES many times in the past to find answers to your problems. We are planning to continue and improve this valuable monthly service and increase the advantages which you have already experienced.

Last month you may have received a reminder that your subscription was about to expire. Perhaps this reminder was misplaced and it has slipped your mind. We always appreciate reader interest in TEXTILE INDUSTRIES and trust you will want to continue this service.

Won't you sit down right now and let us know that you want to continue your subscription? You need send no money, just o.k. the coupon and mail it.

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THE NEED: A cone for use in accelerated yarn conditioning

Recent years have seen the introduction of equipment that reduces the yarn conditioning cycle from 10 or 12 hours to only about 2 hours. This is indeed significant progress. However, this process presented two major problems—a cone was required with a surface to which the yarn would not stick and strong enough to withstand the additional moisture absorption.

Sonoco research solved these problems quickly. The answer was found in the "standard" gray Sonoco Yarn-saver Cone with full Unitex surface. Use of this type cone has eliminated production difficulties with accelerated cycle yarn conditioning equipment.

Only Sonoco, with its modern laboratory, engineering and production facilities, could have answered this industry need. It is typical of countless cases where Sonoco leadership, based on 60 years' experience, has benefited the industry. Let Sonoco help you!

SONOCO

Products for Textiles

SONOCO PRODUCTS COMPANY

KNITTING ARTS EXHIBITION

MAY 4-8 1959

BOOTHS 507-508

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Each part is vital to loom efficiency. That's why Draper **original** repair parts are designed to meet specific loom conditions. Fabric range, loom speed, loom size and model are all given careful consideration before the development of a Draper **original** repair part. Application problems are analyzed and the accessibility of the part, after it is on the loom, is carefully studied. Constant research and development make yesteryear's equipment obsolete. That's

why Draper Corporation continues to place more emphasis on product development and careful mill trial than any other loom builder in the world. For better weaving efficiency insist on new Draper looms and Draper repair parts. Your investment in **original** Draper products is your best guarantee of quality and performance.

DRAPER CORPORATION

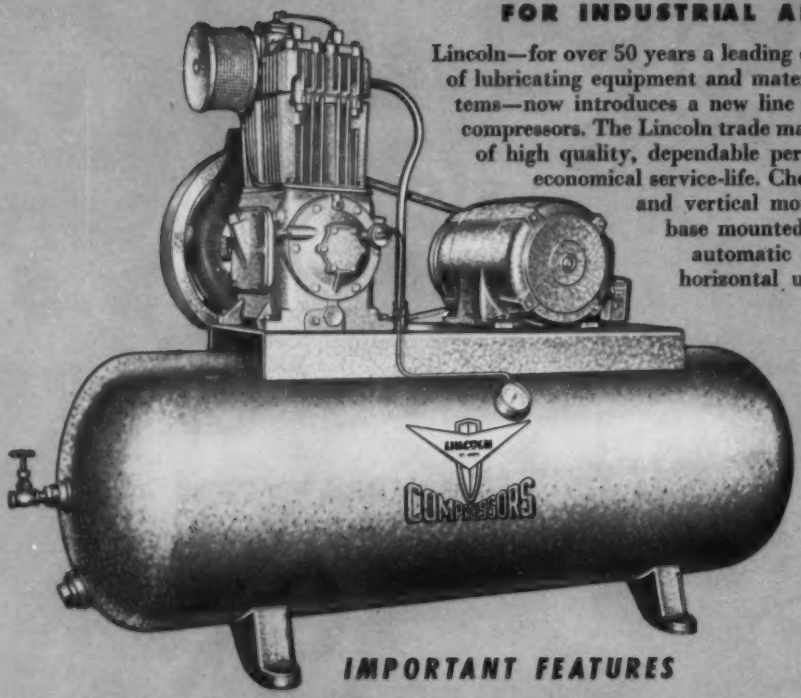
HOPEDALE, MASS. • ATLANTA, GA. • GREENSBORO, N. C. • SPARTANBURG, S. C.

ANNOUNCING...THE COMPLETE NEW LINE OF

Lincoln

AIR COMPRESSORS

FOR INDUSTRIAL APPLICATIONS



Lincoln—for over 50 years a leading designer and builder of lubricating equipment and materials dispensing systems—now introduces a new line of reciprocating air compressors. The Lincoln trade mark is your assurance of high quality, dependable performance and long, economical service-life. Choose from horizontal and vertical mounted tank models, base mounted units equipped for automatic start-and-stop, and horizontal units for continuous service operation.

IMPORTANT FEATURES

LYNITE CONNECTING RODS—light and strong . . . require less power . . . eliminate vibration.

AUTOMOTIVE TYPE PISTONS—light weight . . . perfectly balanced . . . four rings in each piston.

BALANCED CRANKSHAFT—high carbon steel, drop forged . . . oversized bearing surface.

OVERSIZE MAIN BEARINGS—lifetime Timken tapered roller bearings.

CONSTANT LUBRICATION—rotary oil pump on most units up to 7½ HP . . . piston-type oil pump on all units 7½ HP and up.

CYLINDER AND HEAD—high tensile strength nickel iron alloy . . . cylinder cast separately from crankcase and honed to perfect finish and diameter.

LOADLESS STARTING—automatically unseats intake valves . . . compressor doesn't pump until motor has reached full speed.

FINISH—entire unit finished in high-gloss, hammered copper enamel.

Lincoln **LINCOLN ENGINEERING COMPANY**
Division of The McNeil Machine & Engineering Co.

NEW LINCOLN LUBRICANT PUMPS and CENTRALIZED LUBRICATION SYSTEMS

- *Backed by Lincoln's half-century of experience in pneumatics engineering*
- *More than 200 models—electric and gasoline driven—¼ H.P. to 20 H.P.*
- *Factory and field tested to meet every compressed air requirement*

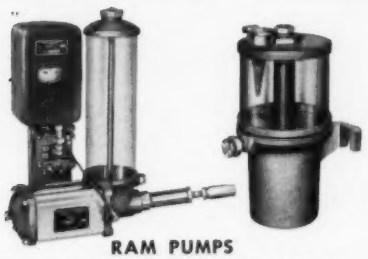
NEW POWER-MASTER PUMP SERIES

67 Different Models available . . . 4 Air Motors . . . 100% interchangeable with pump tubes. The advanced design features of Lincoln's new Power-Master series of air-operated pumps provide unmatched versatility, unlimited applications, for handling materials from light oils to heavy fibrous greases and viscous coatings, sealers and mastics.

Power-Master Features

- **HIGH VOLUME OUTPUT**—Air motor features extra long up-and-down strokes for uniform delivery. Shovel-type foot valve adds mechanical priming to normal suction, assures positive prime even at low temperatures.
- **STURDY CONSTRUCTION**—Plunger and bushing of case hardened nitraloy steel. Pump outlet body all-steel, hydrogen brazed. All moving parts of tough, heat-treated steel.
- **POSITIVE PERFORMANCE**—Air motor operation is 100% pneumatic, no springs. Stall-proof, leak-proof, pre-lubricated air valve. Toggle action for positive tripping.
- **SIMPLIFIED MAINTENANCE**—Entire mechanism can be assembled only "hand tight". Easy to disassemble, invaluable when using compounds which may "set up", such as paints and plastics. Air piston and cylinder require no oiling . . . minimum friction . . . no leather cups.

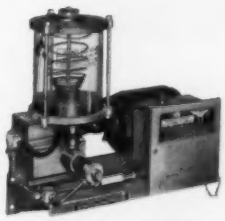
AUTOMATIC CENTRALIZED SYSTEMS



RAM PUMPS

HIGH OR LOW VOLUME OUTPUT

Low-cost, easy-to-install. Systems designed to provide automatic or semi-automatic lubrication of bearings, simultaneously, on single machine units while in operation. May be actuated mechanically, electrically, or manually. Dispense oil or grease.



ELECTRO-LUBERS

Compact, efficient electric-powered lubricant pumps supply oil or grease to banks of injectors in a centralized system, become integral part of individual machine on which installed, providing self-lubrication routine.

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COLGATE SURFACE ACTIVE AGENTS

With Many Uses In Textile Wet Processing

New! COLGATE MENTOR LIQUID 35

An alkyl aryl sulphonate-type liquid detergent providing excellent detergent, wetting, penetrating, foaming and dispersing properties in hot or cold, hard, soft, alkaline or acid waters.

Used for manufacturing and finishing where dye leveling, wetting penetration and detergency are required.

Made to meet the following specifications:

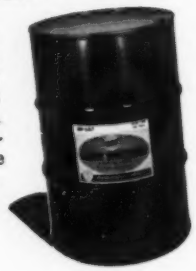
Active Ingredient	35.0% Min.
Alcohol (by wt.)	5.5%
Alcohol Insoluble	3.7%
Moisture	53.8%
Specific Gravity @ 25°C.	1.080

Available in 55-gal. drums.

COLGATE ARCTIC SYNTEX 036

A 100% Liquid Non-Ionic Surface Active Agent. For Use Where An Efficient, Economical Cleaning, Scouring, Wetting, Penetrating and Emulsifying Agent Is Needed.

Compatible with anionic, cationic and other non-ionic chemical substances, ARCTIC SYNTEX 036 is not inactivated by acids, alkalies, oxidizing or reducing agents; or by most organic ions. Stable for long periods at high temperatures. Will not form salts with metal ions. Very effective at low concentrations. Stable and effective in both hard and soft water.



Available in 50-lb. pails and 52-gal. drums.

COLGATE MENTOR BEADS

Spray Dried Neutral Alkyl Aryl Synthetic Detergent. Provides Excellent Wetting, Penetrating, Foaming and Dispersing Properties in Hot or Cold, Hard, Soft, Alkaline or Acid Waters.

A high-molecular-weight alkyl aryl sulphonate-type detergent, MENTOR BEADS has many uses in textile processing including: Wetting Out, Desizing, Kier Boiling, Degumming, Rayon "Boil Off," Bleaching, Fulling, Scouring, Dyeing, Washing After Dyeing, Print Washing, Finishing, Softening, Etc.

Available in 60-lb. cases.

FREE! Latest Edition Handy Soap and Synthetic Detergent Buying Guide. Tells you the right product for every purpose. Ask your C.P. representative for a copy, or write to our Associated Products Department.

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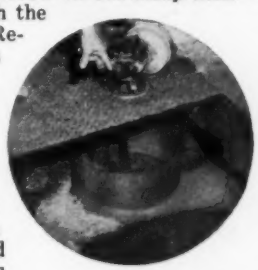
GET ALL THE FACTS

before you buy any waste water heat reclaimer

P-K Closed Type Waste Heat Reclaimer is of multiple pass, single unit construction. Quick-opening doors make inspection simple — downtime negligible.

Compare, point by point, P-K Heat Reclaimers with any competitive offering.

1. The initial cost is less for the capacity specified – P-K's multiple pass, single unit construction eliminates need for additional pumps on fresh water side, does away with extra connections required for stacked stages. **2.** Oversized heating surface for designed capacity gives liberal fouling factor – provides expanded capacity for future needs. **3.** P-K *single unit* construction saves valuable floor space. Place the reclaimer on the ceiling, or wall, or outside the building, as desired. **4.** Lint, grease or curds found in all waste water are trapped by the P-K Roto-Screen* in the sump tank – the logical place to remove fouling agents *before* they reach the reclaimer. **5.** Yet, in the event of sump flooding, P-K Reclaimers are fitted at both ends with quick-opening doors that provide easy access to the tubes for inspection and cleaning. **6.** In addition, an automatic backwash, self-cleaning device–so essential to multi-unit reclaimers–may be applied to P-K Reclaimers, if desired. With P-K construction, however, the additional cost is not warranted. Above all, with the installation of either a P-K Closed or Pit-Type Reclaimer, you are protected by the responsibility of the largest and oldest manufacturer in the field, a responsibility covering the manufacturing and assembling of the complete unit in our own plant. If you are considering a waste heat recovery operation, use the coupon today. Complete field engineering service is available without obligation.



ROTO-SCREEN* Provides lint-free hot waste to heat reclaimer. Accumulated lint and scum are easily removed from sump.

*Patented

20

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Laundry and Textile Division

P-K Steam Mixers • P-K Boiler Return Systems • P-K Heat Exchangers • P-K Pre-Krete Lined Storage Water Heaters

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Send me information on P-K Heat Reclaimers checked below:

☐ "Reclaim those dollars down the drain"
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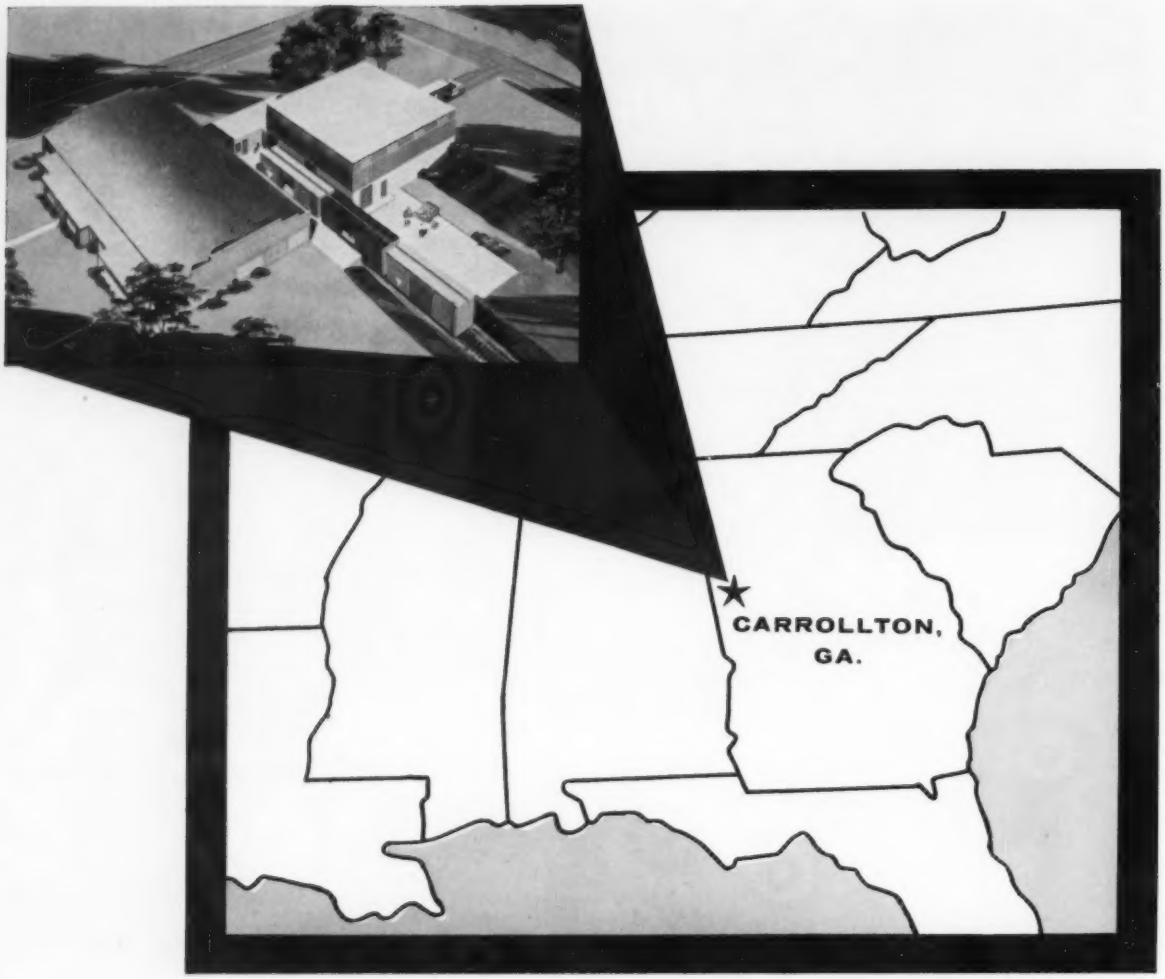

Here's a New Manufacturing Plant to Serve the Textile Industry!

Houghton—for years a leading supplier of textile processing and finishing products—has opened a new plant, warehouse and sales office in Carrollton, Georgia—right in the heart of the growing industrial South.

These new manufacturing facilities will mean that textile mills can get speedy delivery of Houghton size softeners, detergents, wetting agents and fiber lubricants, as well as on-the-spot help in solving textile processing problems.

Take full advantage of the services this new Southern plant offers—as well as those offered by Houghton's five other plants located in Philadelphia, Chicago, Detroit, San Francisco and Toronto, Canada. The Houghton Man in your area is technically trained to give you the help you need. Just ask him. E. F. Houghton & Co., 303 West Lehigh Ave., Philadelphia 33, Pa.

Houghto-Size • Cerfak Detergents • Surfax Wetting Agents
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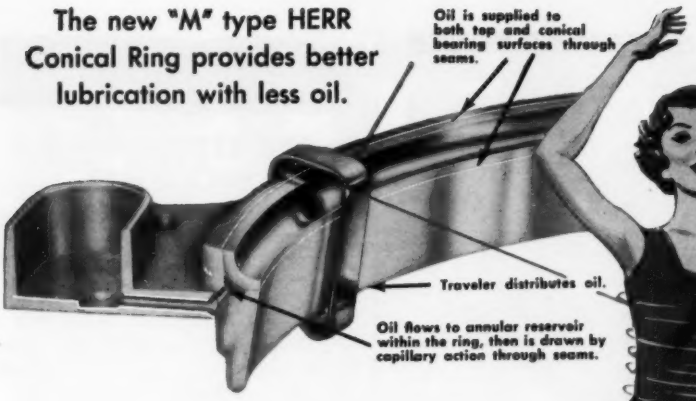
E. F. HOUGHTON & CO.

Ready to give you on-the-job service

Philadelphia, Pa. • Chicago, Ill. • Carrollton, Ga. Detroit, Mich. • San Francisco, Calif. • Toronto, Canada

The new "M" type HERR Conical Ring provides better lubrication with less oil.


Oil is supplied to both top and conical bearing surfaces through seams.
Traveler distributes oil.
Oil flows to annular reservoir within the ring, then is drawn by capillary action through seams.

with HERR®

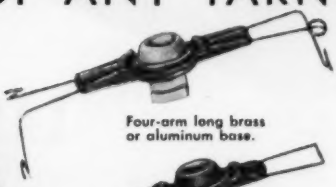
New "M" type

Conical Rings and Flyers

For spinning and twisting of medium and heavy counts of yarns.

For spinning of medium to light counts of yarns.

CORRECT SPINNING OR TWISTING OF ANY YARN



Four-arm long brass or aluminum base.

Four-arm short brass or aluminum base with balance bail wire.

Two-arm, light long aluminum base.

Special pollywog flyer for tire cord and heavy yarns.

In the mad rush to meet the popularity of knitted tights — the most extraordinary in years — the yarns made with Herr Conical Rings and Flyers are helping manufacturers meet high production operation with garments that have just the right stretch and fit. Tights made of HELANCA stretch yarns, produced with Herr equipment, have the curvy, stretchy, sleek look that brings the highest prices.

Herr Flyers produce light tensions at high speeds for accurate twist and yarn control.

New "M" Type Herr Conical Rings are self-lubricating with minimum oil consumption and long traveler life. Result is clean yarn, especially valuable in handling new bulk or stretch yarns.

Let HERR Engineers solve your spinning and twisting problems.

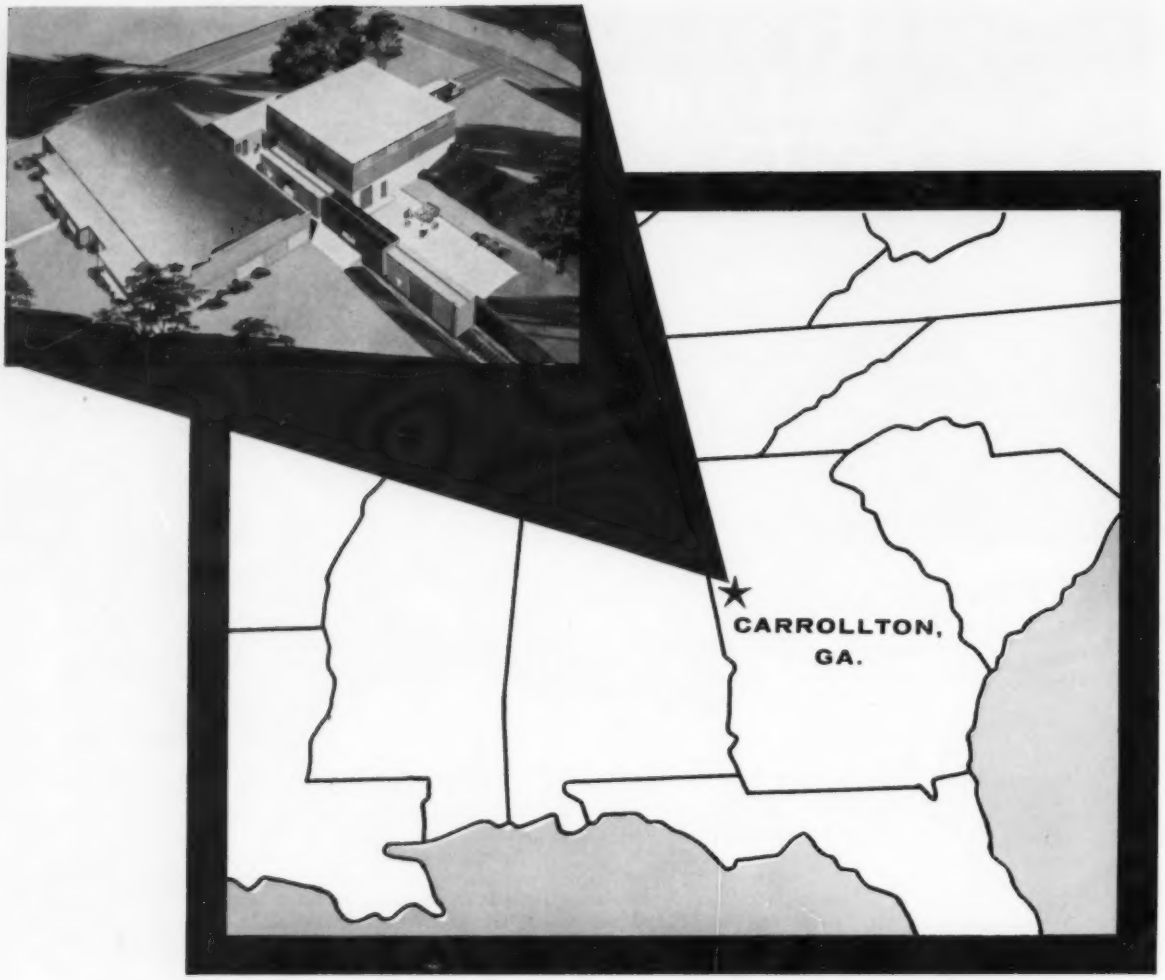
HERR®

MANUFACTURING CO., INC.

310 FRANKLIN STREET, BUFFALO 2, NEW YORK

FOR SPINNING AND TWISTING WORSTED, WOOLEN, RAYON, NYLON, ORLON, FIBERGLASS AND BLENDED YARNS OF ALL TYPES

See us at Booths 38-39 — Knitting Arts Exhibition



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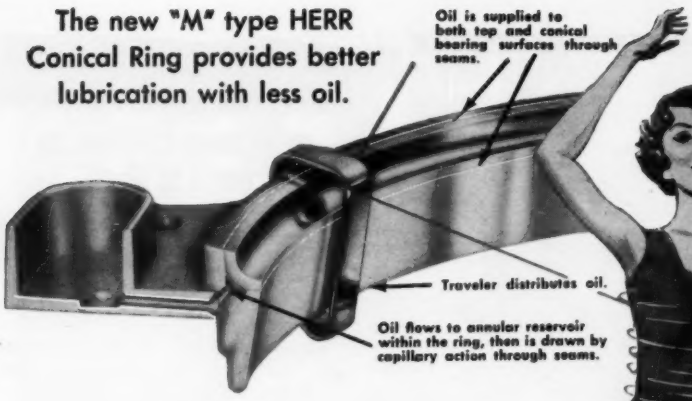
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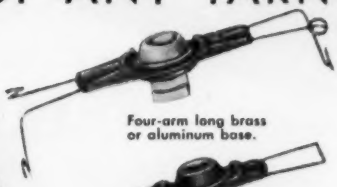

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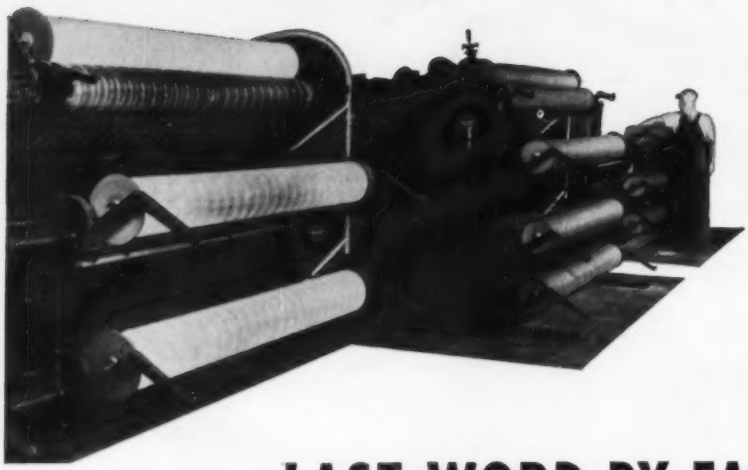
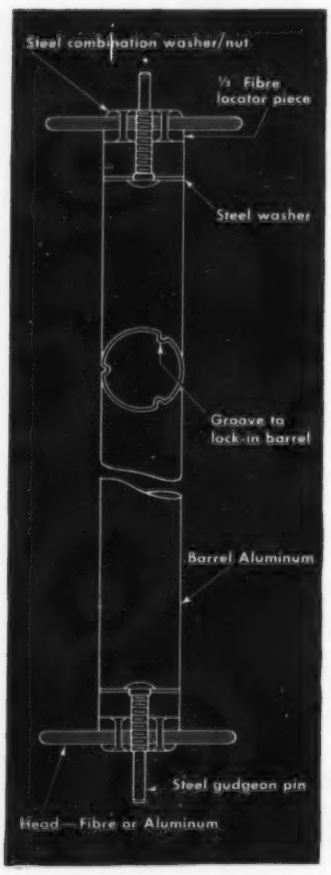


LAST WORD BY FAR
...in Jack Spool Design

Lestershire's New High Capacity "L E" Revolutionizes Jack Spool Efficiency



Introducing a major advance in the field of carded wool yarn processing, Lestershire's new job-proven model "L E" Lock Eze Jack Spool —engineered, built and backed by the industry's dominant producer of quality precision spools and bobbins.

The new "L E" makes possible truer running speeds because of their *warp-free flanges*, a readily demountable head, lighter weights, plus spool *rigidity* with *resilience*.

Typical of "L E" 's new engineering is an important new head design, introducing a ½" thick Vulcanized Fibre insert riveted to the inside of the spool head conforming to the inside of the aluminum barrel. This improvement serves two important functions: (1) acts as a locator (2) serves as a shock absorber, maintaining the tightness of the spool yet providing a resilience that absorbs sudden shocks, bangs, bumps and drops without *loss of spool concentricity*.

The new Lestershire's "L E" is typical of the spool and bobbin advances continually offered by Lestershire—the broader choice of materials, craftsmanship, plus unexcelled laboratory, engineering, production and testing facilities.

Write for your free copy of "Lestershire Bobbins"—a comprehensive catalog on modern spool and bobbin design. Address Dept. W-4.

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JOHNSON CITY, NEW YORK

LESTERSHIRE SPOOL DIVISION

NATIONAL
VULCANIZED FIBRE CO.
WILMINGTON 99, DELAWARE

In Canada:
NATIONAL FIBRE COMPANY OF CANADA, LTD., Toronto 3, Ontario

PERSONAL NOTES

Abbeville (S. C.) Mills Corp. has appointed **S. J. Craig, Jr.,** to the post of general manager.

Edwin B. Shaw, Jr., has been appointed superintendent of the Willimantic, Conn., No. 4 cotton manufacturing plant of American Thread Co., and **Arnold F. Shefer** has been named assistant superintendent. They are responsible for all cotton manufacturing, including twisting and winding, which, due to a recent consolidation, has been placed under one division.

The Chatham Manufacturing Co., Elkin, N. C., has chosen **Richard Thurmond Chatham, Jr.,** executive

Mr. Chatham

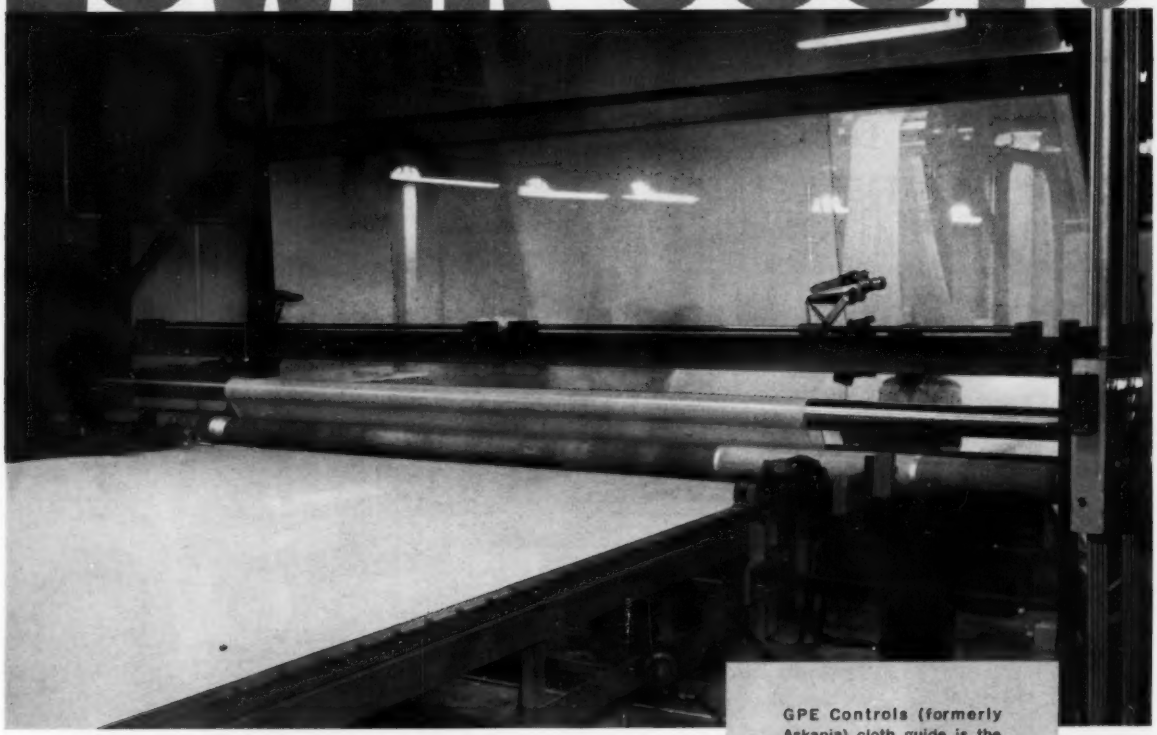
vice-president. At the same time **Raymond E. Henderson,** general superintendent, was elected a vice-president.

Cone Mills Corp.'s Proximity Print Works, Greensboro, N. C., has promoted **Carl Sheffield** to the position of overseer of dyeing.

Ray Wagner has been named president of Crown Knitting Mills, Inc., Mohrsville, Pa., succeeding his brother, the late Ira Wagner. **Richard Wagner,** the former president's son, has joined the firm as vice-president in charge of operations. He formerly held the post of production manager with Franklin Process Co.

Thomas Jerald Willis has joined Dan River Mills, Inc., as assistant division superintendent of the firm's # 1 division in Danville, Va. Mr. Willis was associated with Greenwood (S. C.) Mills in a number of

BETTER CLOTH LOWER COST!



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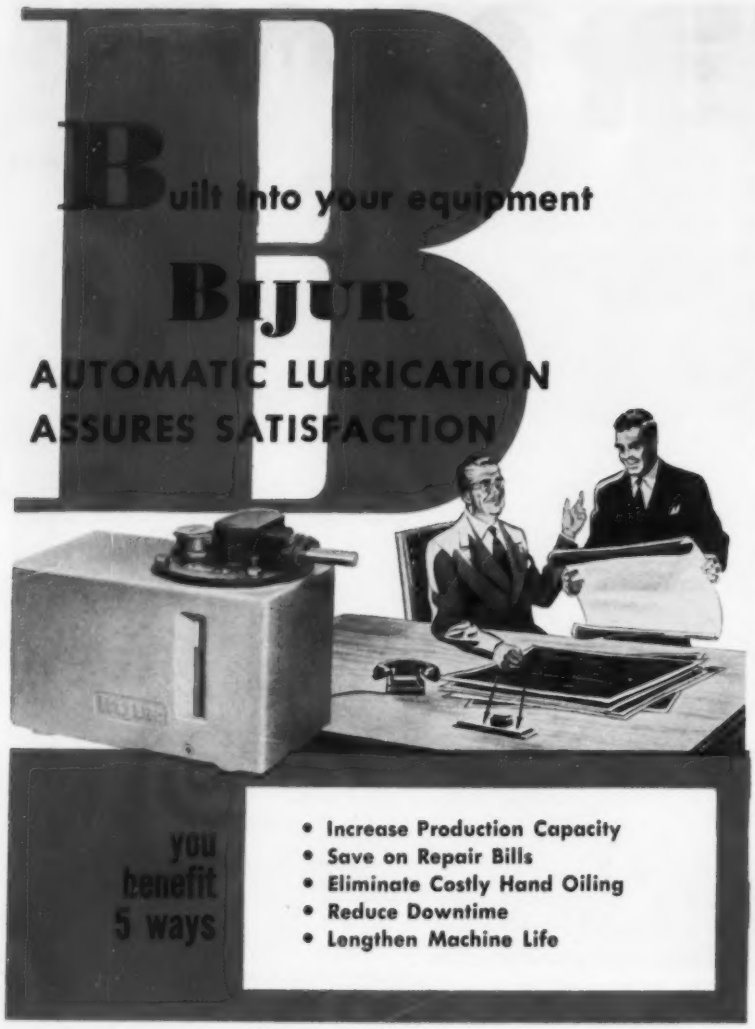

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PERSONAL NOTES

capacities for 23 years. Most recently he was self-employed as a textile consultant. * * * **Louis DeLoach** has joined Dan River as assistant division superintendent of the Alabama Division. He succeeds **J. V. Nelson,** who has become superintendent of the Fayette, Ala., plant.

Reorganization of the Grey Mill at Trion (Ga.) Division of Riegel Textile Corp. has resulted in new duties for the following: **W. E. Ashley** has been appointed superintendent of slashing and weaving, **McMillan Myers, Jr.,** has been promoted to superintendent of carding and spinning, **David L. Harrison** has advanced to general night overseer of the carding and spinning departments, and **Jack O. Orr** has been named general night overseer in the slashing and weaving departments.

Mr. Ashley

Mr. Myers

Mr. Harrison

Mr. Orr

Robert B. Colbert, Jr., has become president of Archer Mills, Inc., Columbus, Ga. He holds the same office with Wayne Knitting Mils, Fort Wayne, Ind., Archer's parent company. Mr. Colbert succeeds **Thomas Robson** who advances to board chairman of both firms.

Frank Blue has been named manager of the Valley Falls, R. I., yarn spinning mill of Sidney Blumenthal & Co., Inc., succeeding **Ernest Chew,** who resigned. Mr. Blue was formerly plant manager of the Hot Springs, N. C., plant of Pacific Mills. Both

(Continued on page 204)

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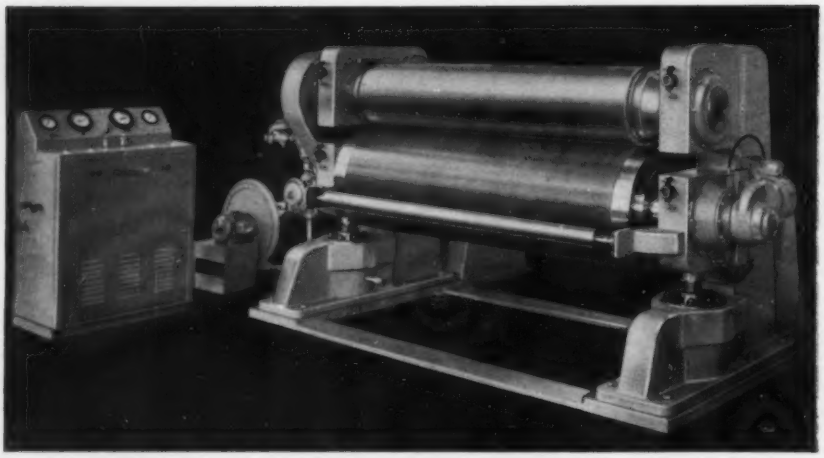

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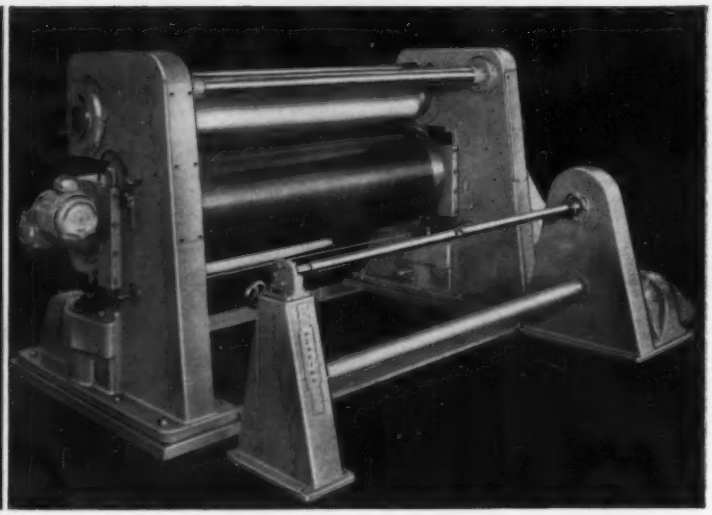

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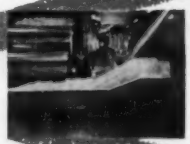

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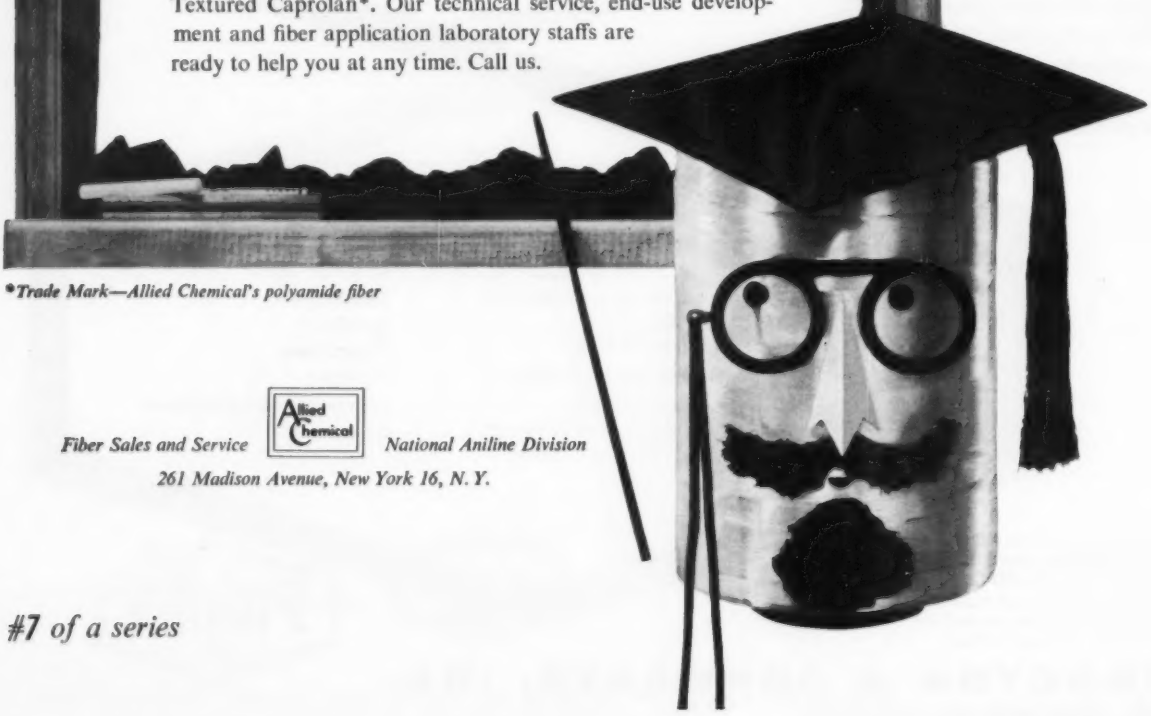

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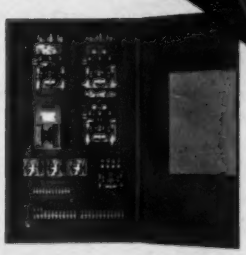

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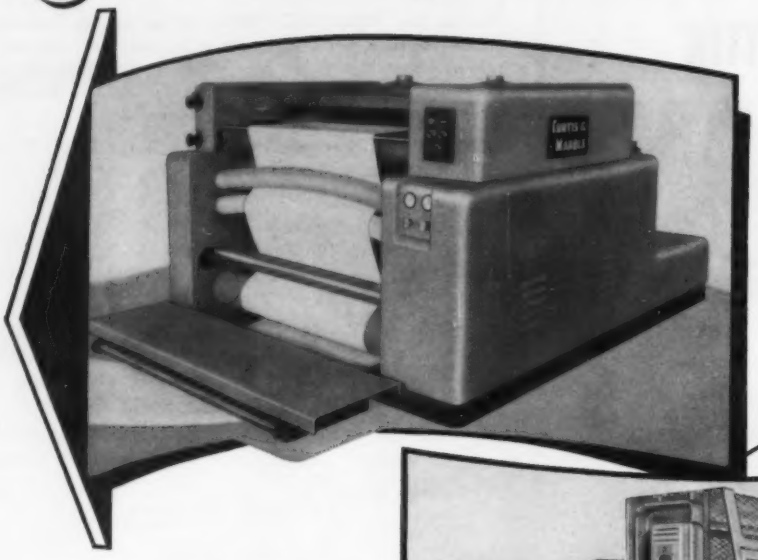

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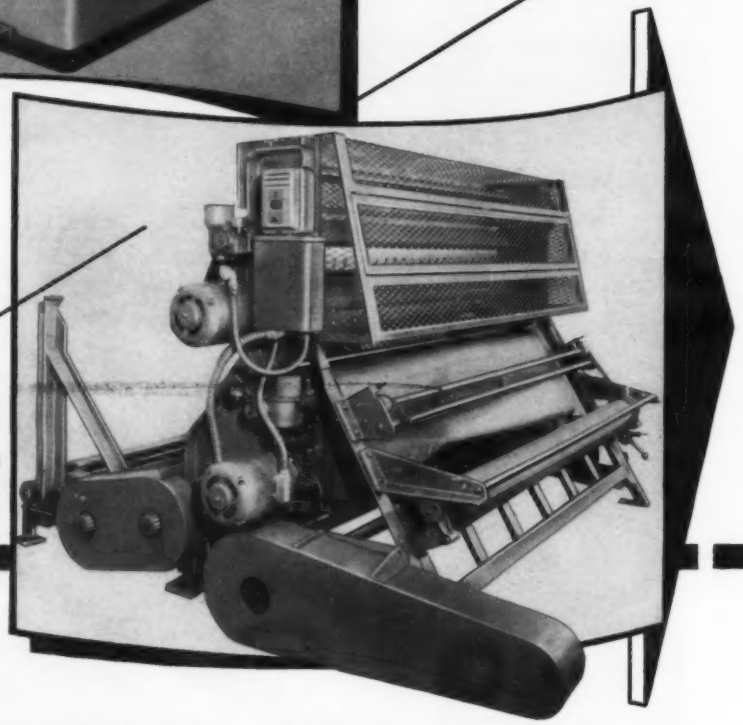

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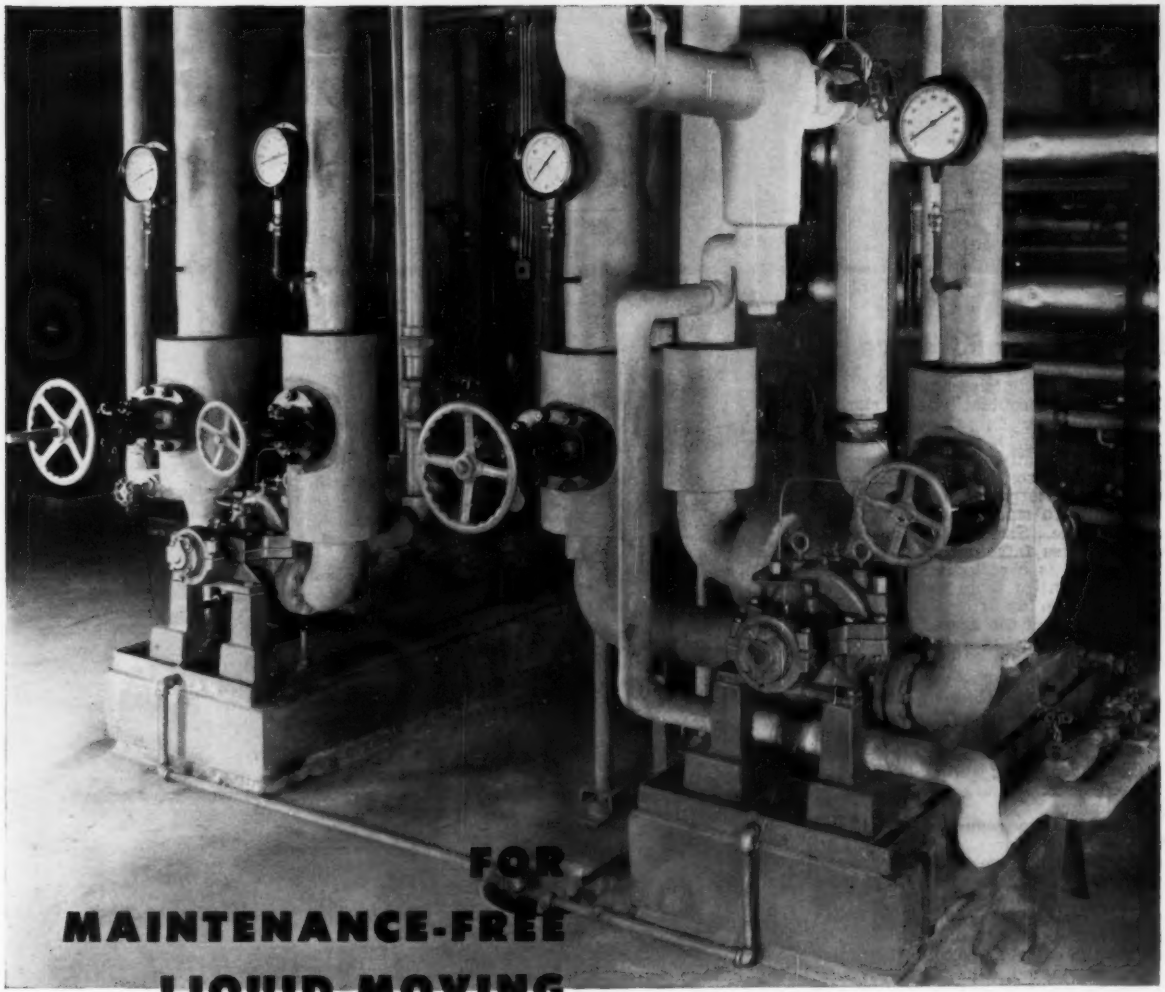

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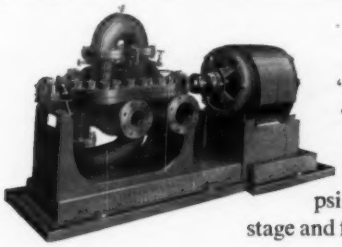

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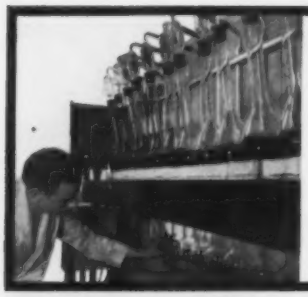


What You Should Know About STARCH *

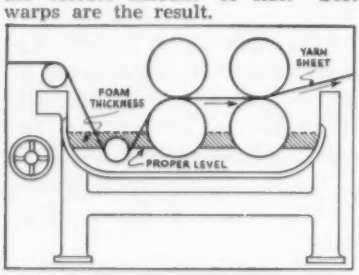
SIZE FOAMING
Its Cause and Cure

Foaming in the size applicator is a troublesome problem which slasher operators have experienced at one time or another. It may develop with no apparent cause or reason, persist for a day or so, and then disappear leaving soft warps in the weave room.

Actually, a small amount of foam is desirable. Size is composed of starch, waxes, fats and oils in a water solution. It is a colloidal solution. A small amount of foam indicates good emulsification assuring equal distribution of all of the ingredients in the solution. Excessive foaming, however, is a condition to be avoided. The level of a foaming size in the size box is both misleading to the operator and the automatic level controls. Foaming will also cause overflowing of the size box, cooking or storage kettles. Not only are sizing solids lost, but the mess interferes with good working conditions.

There are many remedies or cures offered for foaming. However, as in most instances, the cure may solve one problem and at the same time create others which are as serious or more damaging. Therefore, the best and safest solution to any problem is to find the cause. Once the cause has been determined, usually the solution becomes obvious.

Foam is the condition that exists when an excessive amount of air is held in suspension in a solution. The concentration of solids in a foaming solution is much less than in a non-foaming one. Hence, a warp sheet passing through foam cannot pick up the correct amount of size. Soft warps are the result.



What is the cause of excessive foaming in size mixtures? Why will one batch of size foam and another batch made with the same ingredients from the same lot under the same conditions not foam? Or, why will excessive foaming persist for a day or so and then disappear?

The above questions will, of course, lead to other questions. If it is desired to have a water solution or mixture foam, what could be added to provide this phenomenon? The answer readily comes to mind—soap. Soap in solution is a universal cleansing agent because of its ability to produce foam, more commonly called "suds." Following this line of thinking further, how can soap be produced in the preparation of a size?

Soap is the alkali salt of fatty acid. Fatty acids are a part of all vegetable and animal oils and fats. Since fats and oils are important ingredients in preparing a balanced size, one of the important ingredients in soap is present in the size cooking kettle. The only other part required to produce soap is the alkali. It must be mentioned here that certain types of alkali produce certain types of soaps. One class of alkalies produces a soluble soap and another class produces insoluble soap. Soluble soaps, as the name signifies, disperse in a water medium and will foam abundantly. Insoluble soaps will not disperse or go into solution. They will usually float on the surface and will not produce foam.

There are only two other ingredients involved in making size—starch and water. Therefore, if foaming of the size is noted resulting from the formation of a soap in the size kettle, then the alkali must be introduced with either of these two ingredients.

Refined corn starch manufactured by the wet milling process is a highly refined product. Approximately 125 gallons of purified water is used directly for each 100 pounds of finished starch. (1) Each starch granule is washed several times. Chemical analysis will show less than one tenth of a percent ash. Furthermore, the most important, refined corn starch is manufactured to meet definite pH specifications. This specification is usually around 6.0 pH which is on the acid side. This means there can be no active alkali present to react with the fats and oils to produce a soap.

By the process of elimination, this leaves only the water to be considered. Water is the most universal solvent. In the streams and rivers, both surface and underground, it comes in constant contact with the minerals, metals, and salts that make up the earth's surface. Its acidity or alkalinity (pH) may vary from neutral to acid or alkaline depending upon the type of the earth's compounds with which the waters have been in contact. Water, then, can be the carrier of the materials which may cause size foaming problems. Where the water supply is from a small stream or lake, the foaming condition may appear and disappear from time to time, due to certain variations in rainfall.

Mother Nature is extremely complex and at the same time systematic in her plan of action. She gives us a problem and at the same time provides the means of a solution.

As mentioned previously, size foaming is the result of soluble soap formation. Soap is made by the action of an alkali on a fat. The medium in which this reaction occurs must be alkaline. It will not take place in an acid or neutral medium. Therefore, the solution of the size foaming problem is the maintainance of a proper acidity and alkalinity of the ingredients. This in turn will control the acidity and/or alkalinity (pH) of the size mixture.

Water is normally alkaline. From municipal filtration plants the pH will be around 7.5 to 8.5. Refined corn starch is usually produced, unless otherwise specified, with a pH of 6.0 - 6.5. The acid pH of the corn starch will balance the alkaline pH of the water in a size mix resulting in a pH around neutral (7) or slightly on the acid side. This will eliminate excessive foaming.

Where the corn refiner has knowledge of the water characteristics and they may present a problem (high alkaline pH), he will adjust the pH of the starch to counteract the alkalinity of the water.

(1) Corn Industries Res. Foundation. **The Story of Corn and its Products** 2nd Edition. P. 11

* ONE OF A SERIES OF ARTICLES. FOR THE COMPLETE SET AND FOR OUR CONTINUING TECHNICAL DATA SERVICE, WRITE WITHOUT OBLIGATION TO:

The Hubinger Company

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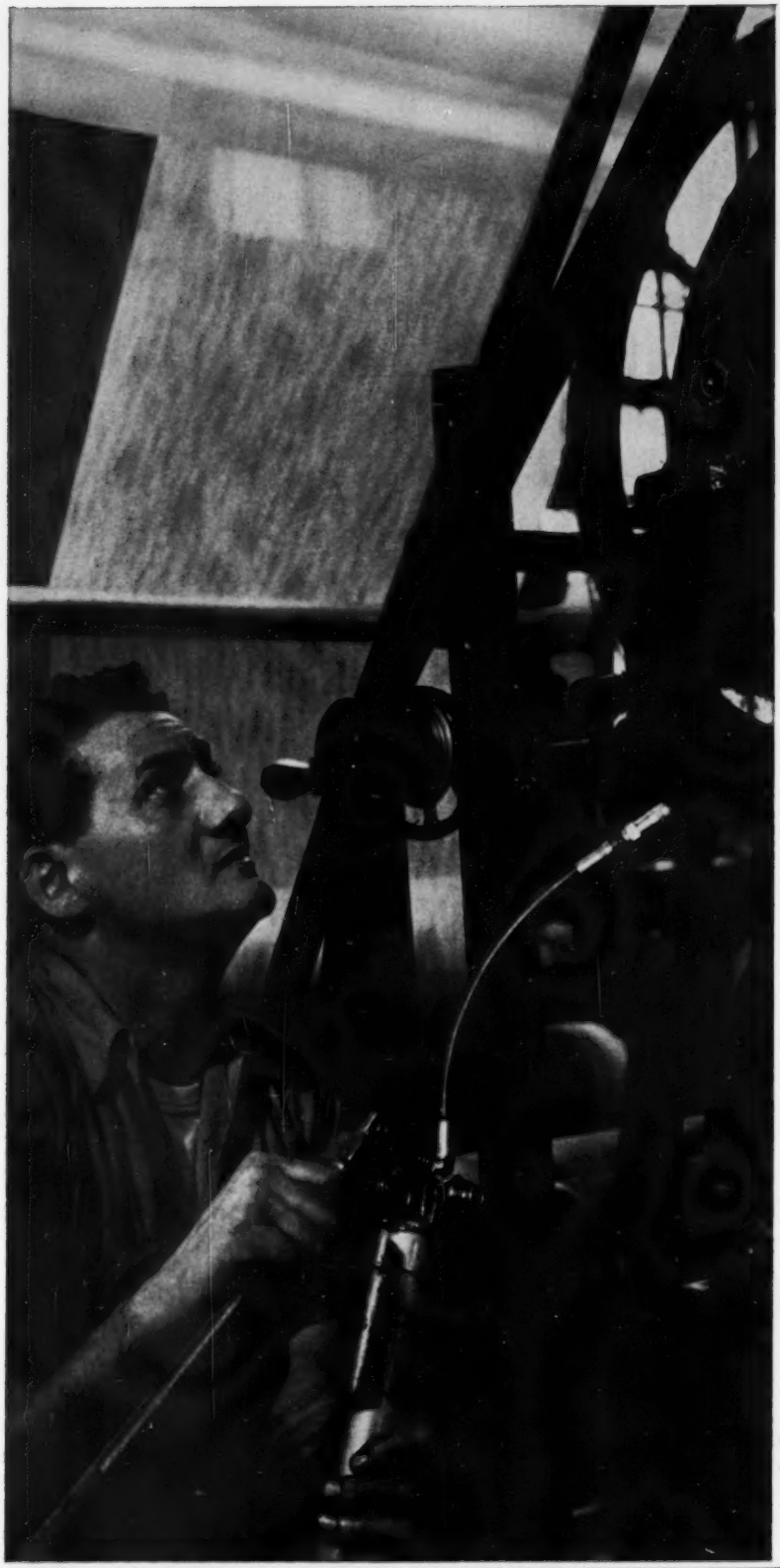


Needs less "make-up" grease with NEBULA® EP

Measured in terms of lower depreciation, less down-time and costly overhauls—your maintenance man makes a most significant contribution to your profit picture. That's why it pays to supply him with Nebula EP . . . the multi-purpose grease that has no rival, especially under high heat and extreme pressure conditions.

Nebula EP requires less make-up grease because it stays put, resists thinning and refuses to run out at the high temperatures created in textile equipment bearings. Even in bearings that are subject to extreme heat, like the "dry can" bearings shown here, Nebula EP stays on the job. In addition Nebula EP offers remarkable extreme pressure characteristics — making it the ideal multi-purpose grease for use in almost every machine and bearing found in textile equipment.

For more information on versatile Nebula EP, or technical assistance available through a conveniently located Esso Sales Service Laboratory, contact your nearest Esso office, or write: Industrial Lubricants Division, Esso Standard Oil Company, 15 West 51st St., New York 19, New York.

Esso

In Industry after Industry..."ESSO RESEARCH works wonders with oil"

#2 in a series of ads reviewing the "reasons-why" for the consumer acceptance of Arnel

ARNEL'S "STAMPS" OF CONSUMER APPROVAL

Separately . . . and in combination . . . these "stamps" of approval are working for you in the consumer market just as successfully as you work with Arnel triacetate in the mill.

You accept Arnel for its running efficiency and processing flexibility. The consumer accepts it not only for its beauty but for its ease-of-care and styling versatility. And part of that acceptance is PERMANENT PLEATING.

To the consumer:

1. 100% Arnel fabrics are permanently pleatable.
2. These permanently pleated Arnel fabrics will withstand repeated hand launderings, without the need for pressing.
3. In many combination fabrics, such as Arnel and cotton, and Arnel and rayon, excellent pleating can be obtained. (The pleats are made to run across the Arnel—the permanently pleatable member.)
4. All fabrics carrying the official Arnel symbol have been pretested for performance claimed—including permanent pleating. (Tests are conducted free of charge by the Celanese Corporation of America).

To take advantage of the great consumer acceptance of Arnel, let Celanese work with you to develop new construction in Arnel fabrics. Booklets 12A, 13A and 14A, containing the important technical procedure and facts about Arnel, are available by writing Celanese Corporation of America, Box 1414, Charlotte, N. C.

Celanese® Arnel®

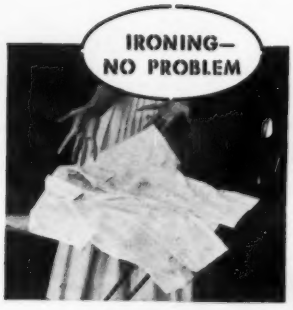
District Sales Offices: 180 Madison Ave., New York 16, N. Y.
Room 10-141 Merchandise Mart, Chicago 54, Ill.; P. O. Box 1414, Charlotte 1, N. C.
200 Boylston St., Chestnut Hill 67, Mass.; 3179 Maple Drive N. E., Atlanta 5, Ga.

Export Sales: Amcel Co., Inc., and Pan Amcel Co., Inc., 180 Madison Ave., New York 16, N. Y.

In Canada: Chemcell Fibres Limited, 1600 Dorchester Street West, Montreal, Quebec

Arnel . . . a

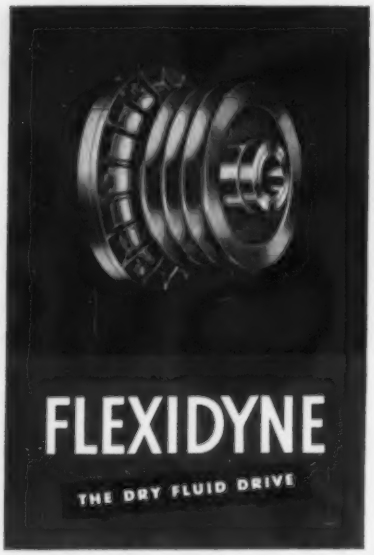
PERMANENT PLEATING



ARNEL*

*This is the official Arnel symbol—evidence that this fabric of this new triacetate fiber has been pre-tested for performance claimed.

Celanese contemporary fiber



NEW DRIVE INSURES AMAZING SOFT STARTS FOR TEXTILE MACHINERY!

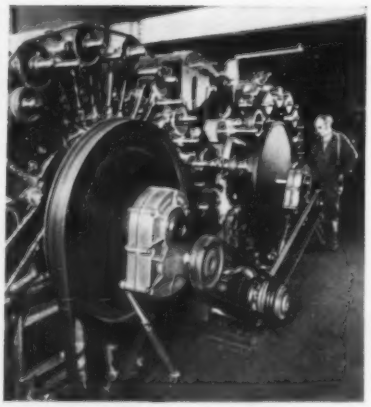
Flexidyne is an entirely new type of drive in which a dry flow charge of heat treated steel shot is employed to start loads *with fluid ease.* It accelerates quickly to full speed—and then operates *without slip at 100% efficiency.*

This revolutionary drive is being used with great success in:

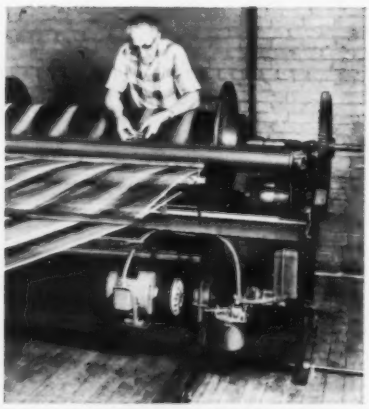
- cotton cards
- wool cards
- roving frames
- fly frames
- spinning frames
- slubbers
- openers
- tenter frames
- condensers
- extractors
- pickers
- beaters
- twisters
- warpers
- slashers
- cloth rolling heads
- cloth shearing machines
- and for synthetics, too

Ask your Dodge Transmissioneer for the full story. Or write us for Bulletin A-653.

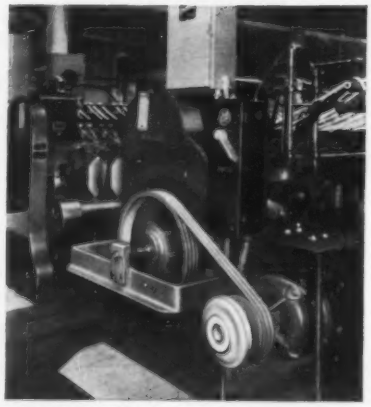
CALL THE TRANSMISSIONEER—your local Dodge Distributor. Factory trained by Dodge, he can give you valuable help on new, cost-saving methods. Look in the *white* pages of your telephone directory for "Dodge Transmissioneer."



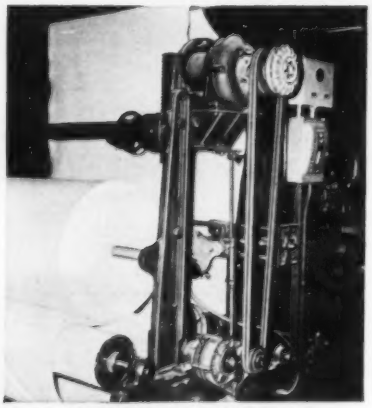
WOOL CARDS



LONG RAIL BEAM WARPERS



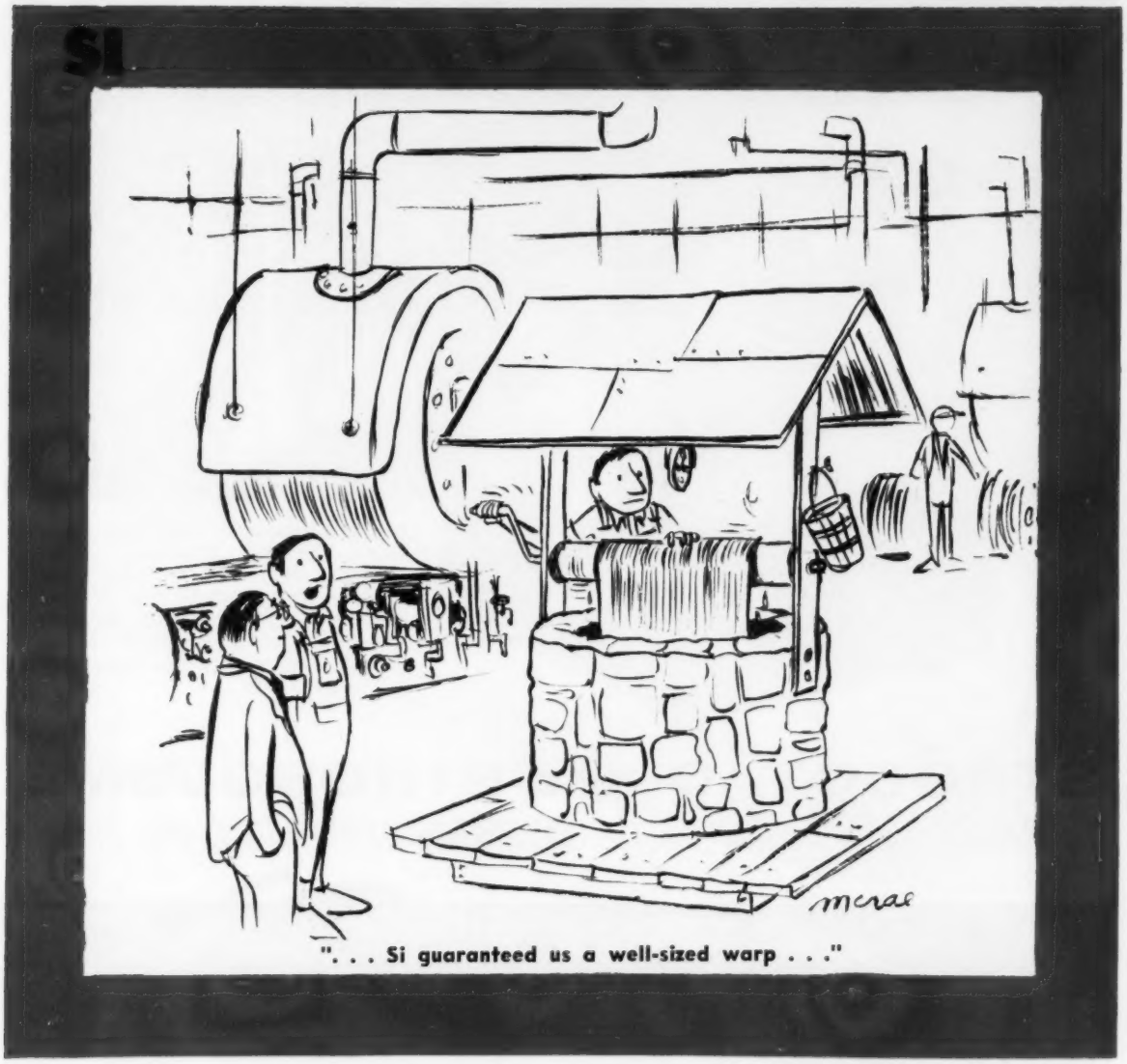
ROVING FRAMES



CORDUROY ROLLING HEADS

DODGE
of Mishawaka, Ind.

DODGE MANUFACTURING CORPORATION, 3500 Union Street, Mishawaka, Indiana



". . . Si guaranteed us a well-sized warp . . ."

Your job is to produce a quality product in an efficient manner at a cost which will permit you a profit.

Our job is to help you do your job.

If your need is routine testing or specialized research, we are equipped to work with you.

May we suggest that you benefit from our 54 years of experience.

Warp Sizing: *Softeners, Binders, Penetrants, Ty-In Penetrants, Shuttle Dressing, Waxes.*

Wet Processing Chemicals and Auxiliaries: *Dye Assistants, Penetrants, Rewetting Agents, Sanforized Fabric Oils, Detergents, Scouring Agents, Softeners.*

Niagara Twist-Setter: *Yarn Conditioning Penetrants.*

Seyco Warp Lubricator.

Headquarters for textile chemicals

SEYDEL-WOOLLEY & CO.

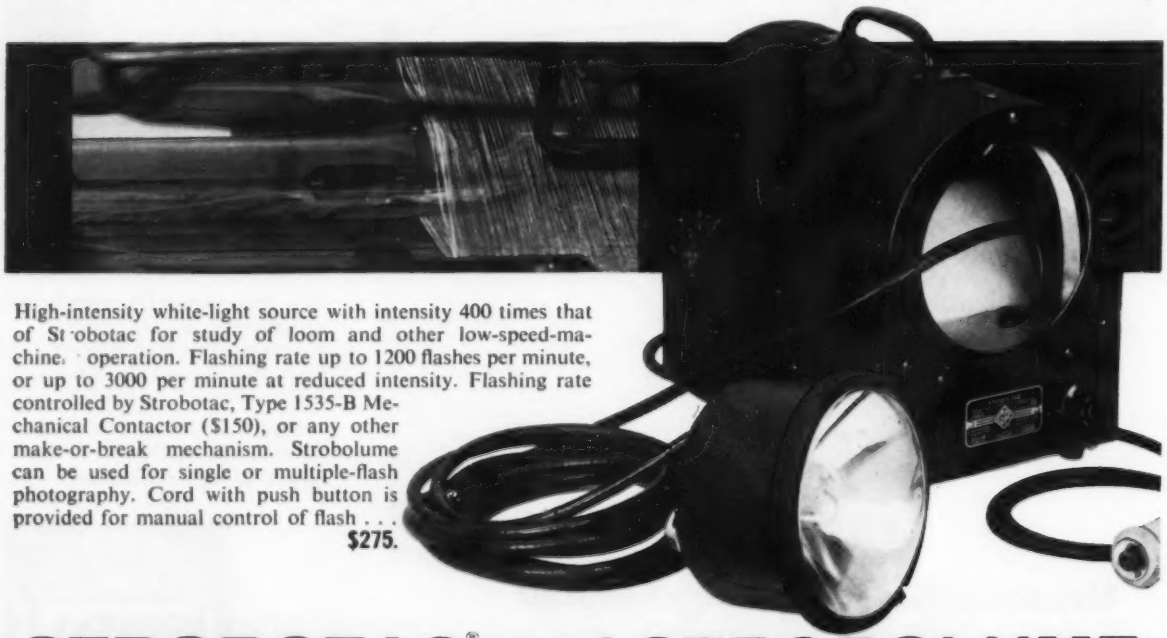
748 RICE STREET, ATLANTA, GEORGIA

SEYCO

Accurate stroboscopic tachometer. Direct reading from 60 to 14,400 rpm; useful for measurements from 60 to 100,000 rpm, and from 300 to 100,000 rpm for slow-motion studies. Accuracy ±1% over most of range. One control adjusts flashing rate to desired value. Operates from 115v, a-c line . . . **$170.**

STROBOTAC® and STROBOLUME

The Most Versatile Trouble Shooters and Tachometers in the Textile Industry



High-intensity white-light source with intensity 400 times that of Strobotac for study of loom and other low-speed-machine operation. Flashing rate up to 1200 flashes per minute, or up to 3000 per minute at reduced intensity. Flashing rate controlled by Strobotac, Type 1535-B Mechanical Contactor ($150), or any other make-or-break mechanism. Strobolume can be used for single or multiple-flash photography. Cord with push button is provided for manual control of flash . . . **$275.**

STROBOTAC® and STROBOLUME

Manufactured Exclusively by **GENERAL RADIO Company** 275 Massachusetts Avenue, Cambridge 39, Massachusetts

INSTALL PERFORMANCE NOT PROMISES

Promised catalog ratings and actual on the job ratings are not always the same. When you install "Buffalo" Fans you can always be sure that fan *performance* will confirm your good judgment. Buffalo Forge Company's 81 year reputation for highest engineering and manufacturing standards is assurance that you will obtain fan performance to meet the *exact* requirements of each job.

FOR HIGH PRESSURE REQUIREMENTS:

Designed especially for Class III and IV construction, the "Buffalo" Type "BLH" fan will provide peak performance for your high pressure systems. It affords a mechanical efficiency of 86% over a wide range, while maintaining stability of performance from free delivery to shutoff. The "BLH" features a smooth inlet bell, directional inlet vanes, backward-curved blades and divergent outlet. These factors reduce turbulence to a minimum, and give very quiet operation. An added feature is the non-overloading characteristic. Bulletin F-201 gives complete details.

FOR MODERATE PRESSURE REQUIREMENTS:

The "Buffalo" Type "BL" Fan is an ideal choice for your Class I and II ventilating and air conditioning installations. Its high static efficiency over a broad range has been proved in hundreds of applications. The "BL" has many of the unique "Buffalo" features of the "BLH": it is non-overloading, and is designed for minimum turbulence and ultra-quiet operation. Other features are the factory-balanced wheel to minimize vibration and the wheel-contoured housing with large, correctly-shaped scroll. Write for Bulletin F-104.

Only "Buffalo" offers you the "Q" Factor — the built-in Quality which provides trouble-free satisfaction and long life.

"Buffalo"

BUFFALO FORGE COMPANY

Buffalo, N. Y.

Buffalo Pumps Division • Buffalo, N. Y.
Canadian Blower & Forge Co., Ltd., Kitchener, Ont.

VENTILATING • AIR CLEANING • AIR TEMPERING • INDUCED DRAFT • EXHAUSTING
FORCED DRAFT • COOLING • HEATING • PRESSURE BLOWING

Automate your cotton looms by "weaving-from-a-cone"
with **UNIFIL**® *Loom Winders...*

You can weave higher quality cotton fabrics at lower cost per yard, by installing UNIFIL Loom Winders.

The UNIFIL Winder brings the entire process of filling preparation right to the loom. It automatically winds, loads the shuttle, strips and returns empty quills to the winder. Tension variation is held to a minimum . . . quill soilage and mixed fillings are virtually impossible! Savings in quill handling alone quickly pay for UNIFIL. And cloth quality is *automatically* better on every yard you run, because of better prepared filling and improved transfer conditions. Thousands of UNIFIL Winders are daily improving the weaving of filament and spun fabrics, as well as cotton.

Find out how UNIFIL Loom Winders can improve cotton weaving and profits in *your* mill. Ask your Universal Sales Engineer, or write Universal Winding Company, P. O. Box 1605, Providence 1, Rhode Island.

23.84

LEESONA

UNIVERSAL WINDING COMPANY

Boston • Philadelphia • Charlotte • Atlanta • Los Angeles • Montreal and Hamilton, Canada

Harshaw Zinc Nitrate Flake is especially suited for polymerizing resins currently being used for wrinkle-free and wash-and-wear fabrics.

Harshaw Zinc Nitrate Flake is produced under rigid control assuring the user of uniform resin catalysis at all times.

Harshaw Zinc Nitrate Flake measures about $\frac{3}{32}$" thick by $\frac{1}{2}$" long, thereby reducing dust and fines to absolute minumum.

Packed in 300 or 100 pound Leverpak drums with polyethylene liner, Harshaw Zinc Nitrate Flake is available for immediate shipment. Write for samples and prices.

TYPICAL AVERAGE ANALYSIS:	
Assay as $Zn(NO_3)_2$	72.5%
Zn	24.6%
Fe	0.001%
Pb	0.003%
pH of 5% solution	5.2
Insol. in 1% Nitric Acid Solution	0.001%

THE HARSHAW CHEMICAL CO.
1945 E. 97th Street, Cleveland 6, Ohio

CHICAGO • CINCINNATI • CLEVELAND • DETROIT • HASTINGS-ON-HUDSON, N.Y. • HOUSTON • LOS ANGELES • PHILADELPHIA • PITTSBURGH

News about

B.F.Goodrich Chemical *raw materials*

SCRIM STABILIZED WITH GEON®

. . . puts backbone into bagging, film

Both weavers and users of scrim profit when Geon vinyl latex is used to stabilize this fabric—either on the loom or in a finishing plant. Geon improves shape retention—makes it easier to apply scrim as a low-cost strengthener for paper or film.

At the same time, Geon provides greater resistance to raveling, tearing and snagging. Coatings made of Geon let you color scrim—in metallics, solids or pastels— for identification or selling appeal. They go on easily—by kiss-roll, spray, or padding—stay on permanently.

In addition to providing the dimensional stability that makes scrim usable in more applications, Geon provides excellent heat-sealing qualities for lamination to film.

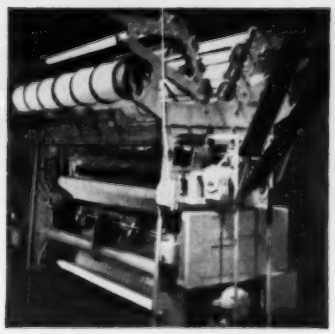
Here's another example of service you can get to widen appeal, improve fabrics, and lower application costs. You can get more information by writing Dept. EA-1, B.F.Goodrich Chemical Co., 3135 Euclid Avenue, Cleveland 15, O. Cable: Goodchemco. In Canada: Kitchener, Ontario.

PRODUCTS FOR TEXTILE IMPROVEMENT

B.F.Goodrich Chemical Company
a division of The B.F.Goodrich Company

B.F.Goodrich

GEON polyvinyl materials • HYCAR rubber and latex
GOOD-RITE chemicals and plasticizers • HARMON colors



There's no limit to the lace patterns with the NEW KIDDE 24 BAR RASCHEL KNITTER

Look at the lace in the picture. Every one of those intricate and varied patterns can be made on a single machine . . . Kidde's new 24 bar knitter. Look again at the quality of the lace . . . at the fine detail and the clear outlining of the pattern. That's quality lace turned out at moderate cost.

This new addition to Kidde's line of Raschel knitters is built to operate with 24 bars . . . but can be used with 14 or 18 for less intricate patterns. It turns the lace out fast, too . . . up to 300 courses per minute.

Like all Kidde machines, the new 24 bar knitter is simple, accessible and easy to work on. Equally important, it is ruggedly built to withstand round-the-clock, high speed operation. Write to Kidde for full information.

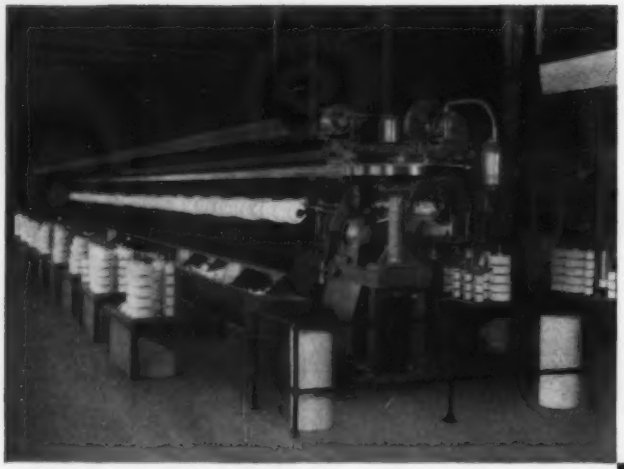
TRICOT AND RASCHEL MACHINES • TRICOT WARPERS • HORIZONTAL WARPERS • BEAMERS
CREELS • SLASHERS • WINDER-REDRAWS • TENSOMETERS • TENSION COMPENSATORS

Kidde TEXTILE MACHINERY CORPORATION — BLOOMFIELD, NEW JERSEY

The word KIDDE is the trademark of Walter Kidde & Company, Inc., and its affiliated companies.

VISIT BARBER COLMAN BOOTH 501 AT THE KNITTING ARTS EXHIBITION

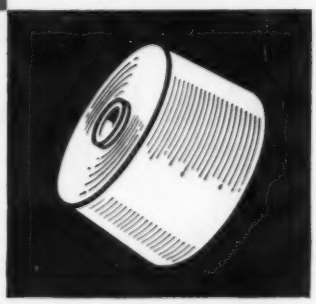
ATLANTIC CITY, N. J. MAY 4th TO 8th



A Barber-Colman Automatic Spooler of the Multiple-Count type, which is ideal for sale yarn mills and producers of piece goods who use various counts and different mixtures.

DISCUSS WITH US THE ADVANTAGES OF USING YARN PROCESSED ON BARBER-COLMAN MACHINES

Operators of knitting mills and yarn mills can often improve the quality of products and at the same time reduce production costs — simply by making sure their yarn is processed on Barber-Colman machines. Packages backwound from Barber-Colman cheeses are noticeably cleaner and much better "built," resulting in fewer rejects, better goods, less down time, and greater operating efficiency. Let us tell you the details . . .



Cone package, with 4° taper, from Barber-Colman Type DD Automatic Spooler.

AUTOMATIC SPOOLERS • SUPER-SPEED WARPERS • WARP TYING MACHINES • WARP DRAWING MACHINES

BARBER-COLMAN COMPANY

ROCKFORD • ILLINOIS • U. S. A.

FRAMINGHAM, MASS., U. S. A. GREENVILLE, S. C., U.S.A. MANCHESTER, ENGLAND MUNICH, GERMANY

INDIA	MÉXICO	BRAZIL	JAPAN	PAKISTAN	PAKISTAN
Batliboi & Company Forbes Street, Fort Bombay, India	J. Rabasa Isabel la Catolica 45 913 Apartado 7348 Mexico D.F. Mexico	Industria e Comercio de Maquinas S. A. "COMASA" R. Glicerio, 537/547 Sao Paulo, Brazil	Do-Yei Shoji Kabushiki Kaisha Atlas Building (7th Floor) 11, Bingo-Machi, 3-Chome, Higashi-Ku Osaka, Japan	Associated Agencies (M'cr.) Ltd. Piccadilly House 11 Piccadilly Manchester 1 England	Associated Agencies (M'cr.) Ltd. 730, Muhammadi House McLeod Road Karachi 2, Pakistan

DEPENDABLE FLEXIBLE SOURCE OF MAJOR CHEMICALS FOR THE TEXTILE INDUSTRY

CARBON DISULFIDE exceeds 99.99% purity. Stauffer was the first—is still the largest—producer of this essential chemical. Shipped in tank cars of 8000 and 10,000 gallons from Bentonville and Roanoke, Va., Lowland, Tenn., LeMoyne, Ala., Chester, Pa., and Perry, O.; in 5, 10 and 55-gallon drums from LeMoyne; in drums and tank cars from Richmond, Cal.

SODIUM HYDROSULFIDE in aqueous solution of high purity and highest practical concentration in tank cars of 8000 and 10,000 gallons from Chester, Pa., Roanoke, Va., Lowland, Tenn., and Los Angeles, Cal.; in 55-gallon drums from Chester; in tank cars, tank trucks and drums from Los Angeles.

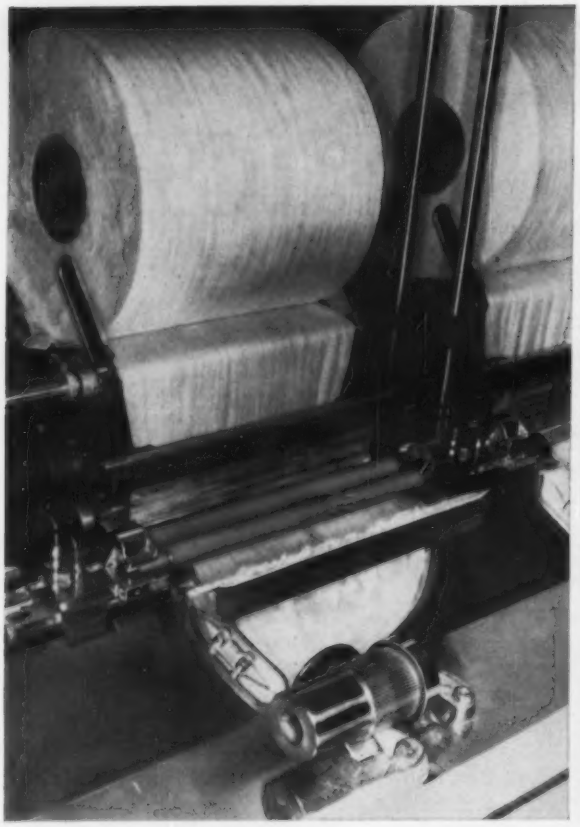
CAUSTIC SODA of 50% and 73% liquid Rayon Grade is shipped in tank cars of 8000 and 10,000 gallons from Niagara Falls, N.Y.

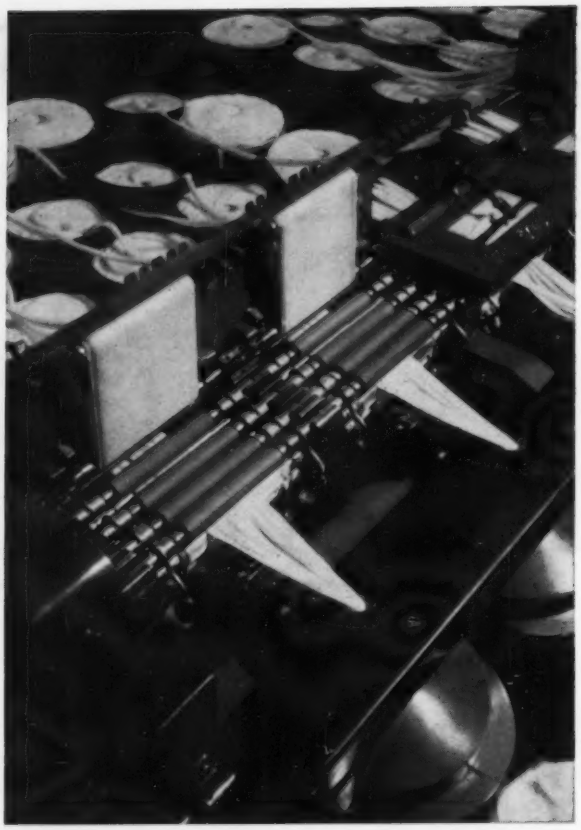
SULFURIC ACID is available in commercial grades of 77.67% to 122.5% H_2SO_4; as Oleum of 15% free SO_3 to 100% liquid SO_3, and as regenerated, water-white 98% H_2SO_4. Shipments are made in barges, tank cars, tank trucks, drums and carboys from many points in the South, Midwest and West.

For continuous, dependable, flexible supplies of textile chemicals...make your arrangements with Stauffer.

STAUFFER CHEMICAL COMPANY

380 MADISON AVENUE, NEW YORK 17, N.Y.
PRUDENTIAL PLAZA, CHICAGO 1, ILL.
636 CALIFORNIA STREET, SAN FRANCISCO 8, CAL.
824 WILSHIRE BOULEVARD, LOS ANGELES 17, CAL.





How the right roll covers will help you produce better work from comber to spinning frame

Although your card room and spinning room frames do different jobs, the quality of their work largely depends on the performance of their drafting roll covers . . . and this performance, in turn, requires the careful selection of the right material for each job.

The Accotex line of roll covers simplifies this selection problem, because it includes materials compounded to meet the special requirements of each frame in the yarn preparation and spinning processes.

On combers, for example, Accotex NO-763 Covers are used on detaching rolls. NO-763 is an anti-static material that maintains good control of the web and reduces lap-ups to a minimum. In the comber draw box, rolls covered with Accotex J-490 help to draft uniform sliver.

For drawing frames, there is a choice of Accotex Covers that will give smooth operation. Where flat clearers are used, Accotex NC-762—another anti-static material—will minimize eyebrowing. For drawing frames with revolving clearers, either J-490 or NO-764 will help to eliminate lapping.

On roving frames equipped with revolving clearers, either Accotex NO-764 or J-490 will control lapping. These two covers tend to repel loose ends, and fibers will not build up on their smooth surface. Where flat clearers are used, NC-762 Covers are recommended. These anti-static covers help to prevent the formation of eyebrows and keep waste formation to a minimum.

In the spinning room, there's an Accotex Cot available that will give you high production of quality yarn no matter what type frame you have, and no matter what kind of fiber you're spinning. Where front roll laps are a problem, they can be controlled by using either J-490 or NO-764. Excessive eyebrowing can be virtually eliminated with NC-762, a new anti-static material. On some frames, an improved break-factor can be obtained by using one of the softer Accotex Cots such as NO-728 or NO-768.

Selecting the right cover for each step in yarn production can make a big difference in the quality—and the quantity—of your production. Your Armstrong representative will gladly help you make the right roll cover selections in your mill. Next time he calls, ask him to make a survey of *all* your roll covering requirements. Armstrong Cork Company, Industrial Division, 6604 Ivy Street, Lancaster, Pennsylvania.

Armstrong ACCOTEX ROLL COVERINGS

"Our converters are unsurpassed as blenders!"

reports Pacific Mills

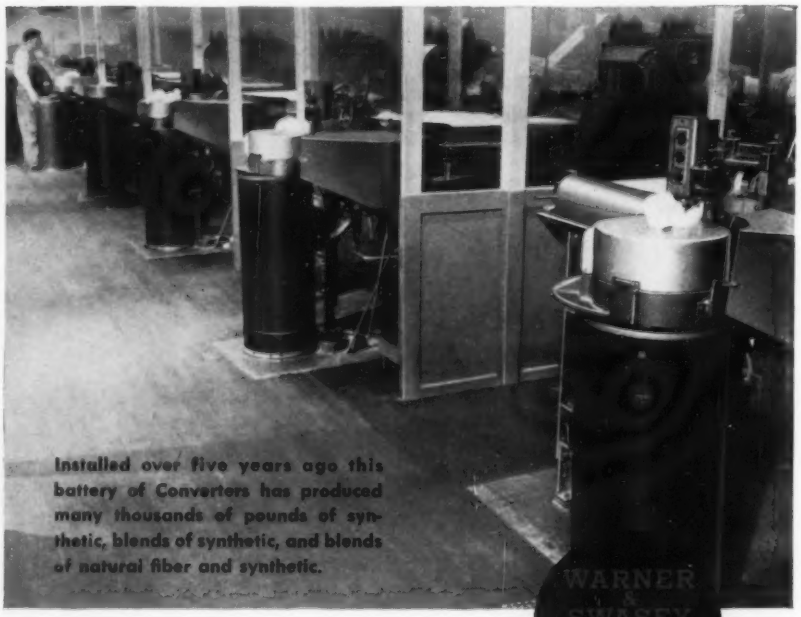
AT THIS PROGRESSIVE COMPANY, Warner & Swasey Converters play an important role in the production of their quality year-round fabrics for both men's and women's wear. They tell us, "We could not maintain the desired product quality on any other equipment available today".

Pacific Mills reports, "For blending natural and synthetic fibers, our Warner & Swaseys can't be beat. They take all scratchiness out of the fabric—improve both appearance and handle".

If you process synthetic or blended sliver, it will pay to get the complete story on what Warner & Swasey-Pacific Converters can do for your operations. Call or write today—no obligation.

WARNER & SWASEY-PACIFIC® CONVERTERS WITH HEAT-STRETCH UNIT

- Converts *all* types of synthetic tow to crimped sliver.
- Cuts and accurately blends synthetics and/or natural fibers.
- Eliminates blending and carding operations.
- Double Variable Cut Attachment gives a staple diagram approaching that of wool.
- High production—100 to 130 lbs. per hour (plus material through the Blending Attachment).



Installed over five years ago this battery of Converters has produced many thousands of pounds of synthetic, blends of synthetic, and blends of natural fiber and synthetic.

SALES OFFICES

Main Office and Factory: 5701 Carnegie Ave., Cleveland 3, Ohio
P. O. Box 215, 20 Chestnut Street, Needham 92, Mass.
121 11th Street, N. E., Atlanta 3, Ga.
P. O. Box 4000, 624 Pecan Avenue, Charlotte 4, N. C.
Suburban Square Bldg., Ardmore (Philadelphia), Pa.

WARNER & SWASEY
TEXTILE MACHINERY DIVISION

YOU CAN PRODUCE IT BETTER, FASTER, FOR LESS . . . WITH A WARNER & SWASEY

NEWS IN BRIEF

Urge Retailers Stress U. S. Textiles. Noting that retailers were advised at the recent annual meeting of their national association to bring foreign producers to the U. S. "so they may better learn to fill your requirements," the National Association of Wool Manufacturers

has countered with a memorandum and booklet urging American retailers to put greater stress on U. S.-made wool goods than on imports. NAWM reminds the retailers that "to sell at home we must buy at home," and calls it "enlightened self-interest" for retailers to give preference to products of American industry.

OCDM Calls Industry Essential. Office of Civil and Defense Mobilization has issued a statement saying "OCDM regards the textile industry as an essential part of the nation's mobilization base . . . In regard to the cotton and rayon broad woven industry, requirements and capacity are almost completely in balance, and further displacement of U. S. capacity could pose a serious mobilization problem. We will watch this situation carefully."

Cotton Fiber - Measuring Research. U. S. Department of Agriculture has awarded a research contract to U. S. Testing Co., Hoboken, N. J., for the development of an apparatus and methods for rapidly preparing representative samples of cotton fiber in suitable form for measuring their length distribution. When this problem is solved, further research will be directed at developing ways and means for rapidly measuring, computing, and recording the length distribution.

Blanket Helps Prevent Infection. A new type of blanket that is claimed to resist dust and to retain its appearance and warmth qualities despite repeated laundering and sterlization is being made in England. It is described as "a

material something like a string vest between two layers of sheeting." Tests of the "Calnamesh" blanket at two English hospitals were said to show that it provides an answer to the problem of infection caused by a penicillin-resistant organism which is harbored in wool or cotton materials, particularly blankets. The blanket is made by Slumberland Ltd., and is distributed in the U. S. by Crown Flex Corp., Los Angeles.

Hosiery Shipments Steady. Total hosiery shipments in 1958 were only 0.5 per cent behind the 1957 total, according to preliminary figures released by National Association of Hosiery Manufacturers. Women's full-fashioned hosiery fell 8.1 per cent behind, but seamless gained 25.7 per cent, to boost the combined total 2.2 per cent. Other changes: mens' hosiery, up 0.4 per cent; and socks and anklets, down 5.9 per cent.

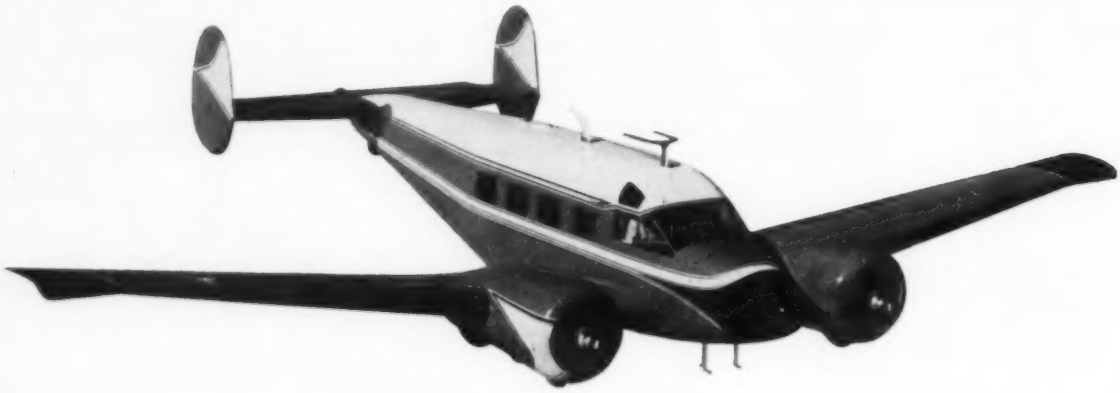
Radiation Effect on Textiles. A $275,000 basic research program to study the effects of nuclear energy on fibers, fabrics, and textile processes has been initiated at the radiological laboratory of the School of Textiles, N. C. State College. Four mills—Burlington Industries, Cone Mills, J. P. Stevens, and Reeves Brothers—will supply 20 per cent of the funds required, and the remainder will be provided by the Atomic Energy Commission. The study will cover four areas: modification of fiber properties by irradiation, modification of fiber and fabric properties with finishes applied using nuclear radiation, use of beta gauges for measurement and control of textile processes, and the use of activation-analysis techniques for textile research.

Cotton Opener-Cleaner Gaining Acceptance. U. S. Department of Agriculture reports wide mill acceptance of the cotton opener-cleaner developed at the USDA's

Going to Atlantic City?

Preview begins on page 117

Beechcraft
SUPER 18



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BEECHCRAFT — AIRFLEET OF THE TEXTILE INDUSTRY

Southern Regional Research Laboratory [see TEXTILE INDUSTRIES for April, 1958, p. 145]. At least 18 of the units have been installed in mills, with others on order. One large mill group plans to install 10 of the opener-cleaners this year, according to USDA.

Crease Process Ready. Development work on volume production

Labor-Management News

Textiles Lowest in Wage Increases. The business recession had its effect on wage negotiations between employers and unions in 1958, but wages still rose substantially in many industries, the Bureau of National Affairs reports. Largest increases were granted in the construction industry, while the textile industry stood at the low end of the scale. In textiles, 74 per cent of wage settlements added less than 7 cents to wage rates, and 35 per cent left rates unchanged. The textile picture is based on 149 wage settlements reported, of which 51 left wage rates unchanged. Median textile wage increase was 4.8 cents per hour.

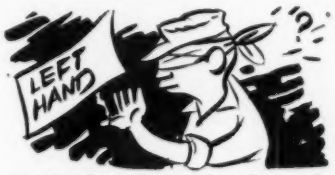
Propose Hosiery Learner Rate Increase. The Administrator of the Wage and Hour and Public Contracts Divisions, U. S. Department of Labor, has proposed an increase of 5 cents per hour for all hosiery learner occupations. In addition, in the seamless branch, "boarding" is divided into two classifications with separate learning periods. One covers women's nylon hosiery, which remains at 480 hours, while boarding in other seamless hosiery is reduced to a learning period of 240 hours.

Mill Ordered Not to Oppose Union. A trial examiner's cease-and-desist order requiring Renfro Hosiery Mills, Mt. Airy, N. C., to stop discouraging union activity at its plant has been upheld by National Labor Relations Board.

Wage Cut in Britain. In sharp contrast to wage increase news in the U. S. textile industry, the National Association of Hosiery Manufacturers' *Hosiery News Letter* quotes a report from England that pay rates in the full-fashioned section of that country's hosiery industry are in for a cut. According to the report, increasing competition and rising production costs have prompted manufacturers to seek a slash in wages. Negotiations for it are under way with the union and a reduction has been approved at the top level, with the next step ratification by the workers themselves.

Engravers Renew Contracts. The contract with 24 textile engraving shops in New England, Pennsylvania, and New Jersey has been extended to Jan. 31, 1960, by the Friendly Society of Engravers and Sketchmakers. No wage increases or other changes are included in the extension.

Don't Let the Left Hand . . . United Automobile Workers union has proposed a "comprehensive program to get America back to work," but at the same time has layed off another 70 members of its international staff and has cut



executive-board members' pay by 5 per cent. This follows seven months after the lay-off of 100 international representatives. And meanwhile, UAW dues were increased from $1 to $4 per month, effective March 1.

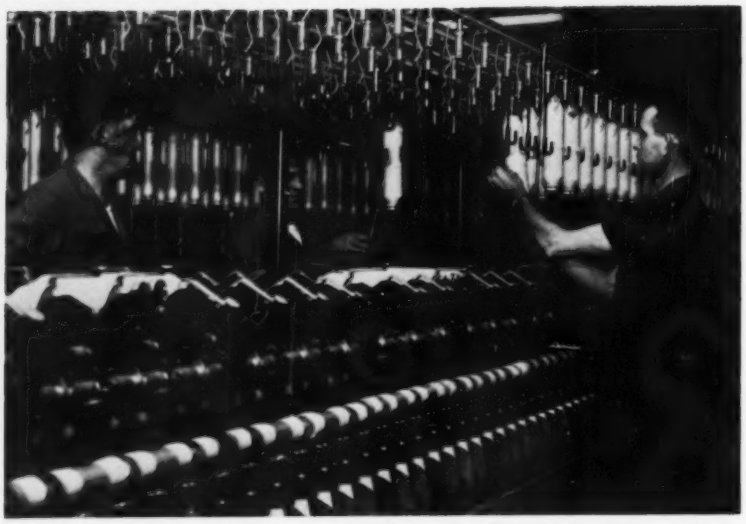
Charges Against Hanes Dismissed. Charges of unfair labor practices brought by Textile Workers Union of America against P. H. Hanes Knitting Co. have been dismissed by National Labor Relations Board.

TWUA Asks 10% from Northern Mills. At the recent annual meeting of the Textile Workers Union of America, northern delegates called for a 10 per cent package wage increase for the 75,000 members of the union in 300 New England and Middle Atlantic States mills. Present wage scales average $1.40 an hour for cotton and rayon workers, and $1.62 for woolen and worsted mill employees.

New Contracts. Two wage boosts, each averaging 5 cents, are included in a new contract with Textile Workers Union of America at Owens-Corning Fiberglas Corp., Huntingdon, Pa. One increase is retroactive to Dec. 29; the other is effective Oct. 5. * * * Two pile-fabric mills in Philadelphia granted wage increases in new contracts with TWUA; employees at Ferdinand W. Mostertz Co. received an average boost of 8 cents an hour, while workers at Conklin Mills, Inc., got 7 cents. * * * Robinson Cotton Mills, Woodbridge, Ont., made a 25¼-cent package settlement with TWUA—15 cents across the board, plus a three-hour reduction in work week, with rates hiked to maintain previous earnings, and fringe benefits. * * * Workers at Artex Woollens Ltd., Hespeler, Ont., get an 8-cent boost, plus fringes. * * * New contract at Burrows Textile Co. Ltd., Guelph, Ont., calls for an 8½-cent package.

Wage Hikes. Employees at California Hand Prints, Hermosa Beach, Calif., received a 6-cent across-the-board increase, plus basic rate changes amounting to an additional 6 to 10 cents, after a month-long strike. * * * Gambrill & Melville Mills, Bessemer City, N. C., gave its 230 employees a 5-cent-an-hour increase. * * * Hourly rates at Roy Weaving Co., Brooklyn, N. Y., have been raised 12½ cents an hour, plus new vacation benefits. * * * Hourly rated employees of Allied Knitting Mills, New York, N. Y., received a 7½-cent raise, while glove knitters were upped 25 cents and closers 27½ cents in addition to piecework rates. * * * At Plastic Woven Products, Inc., Paterson, N. J., weavers and loom fixers were given a 5-cent raise. * * * Hourly raises of 5 cents went into effect at Chesterman-Leland Co. and Atlas Fabrics Corp., Philadelphia, Pa.

This 18th century handloom with a 19th century Jacquard attachment highlighted the reopening of the newly remodeled Hall of Textiles at the Smithsonian Institution, Washington, D. C. The loom, which was presented to the Smithsonian by Arthur E. Wullschleger, weighs one ton and stands over 12 feet high.



The USDA's new 1,000-spindle pilot plant at Clemson, S. C., began operation last month. The plant includes four cards, one drawing frame, one roving frame, and four spinning frames. Shown above are, l-r, Henry Shanklin field station leader at Clemson; and operatives David H. Hawkins and Jesse M. Wilbanks, Jr.

techniques for the Si-Ro-Set process of applying permanent creases and pleats to wool garments has been completed, according to the Wool Bureau. The necessary equipment and chemicals are now available to clothing manufacturers, and garments treated by the Australian-developed process are already on the market in limited quantities.

Dutch False-Twist Device. A device for imparting false twist to yarn reportedly traveling at speeds of over 87½ ypm is described in British Patent 801,491, assigned to

a subsidiary of the Dutch firm, Algemene Kunstzijde Unie N. V. The device, intended for the production of stretch yarns, is based on the principle of inserting false twist by the use of two belts moving in opposite directions. However, in the apparatus covered by this patent the belts are replaced by a pair of rotating abrasion-resistant rubber or rubber-covered hyperboloids, fitted together at a calculated angle. In operation, the yarn passes from feed rollers through a heating zone, into a cooling zone, then through a yarn guide and between the hyperboloids, and finally through a detwisting zone and onto the take-up device.

Japanese Wool Goods Edging Out Britain. Japan's share of U. S. wool textile imports rose to 32.4 per cent during the first nine

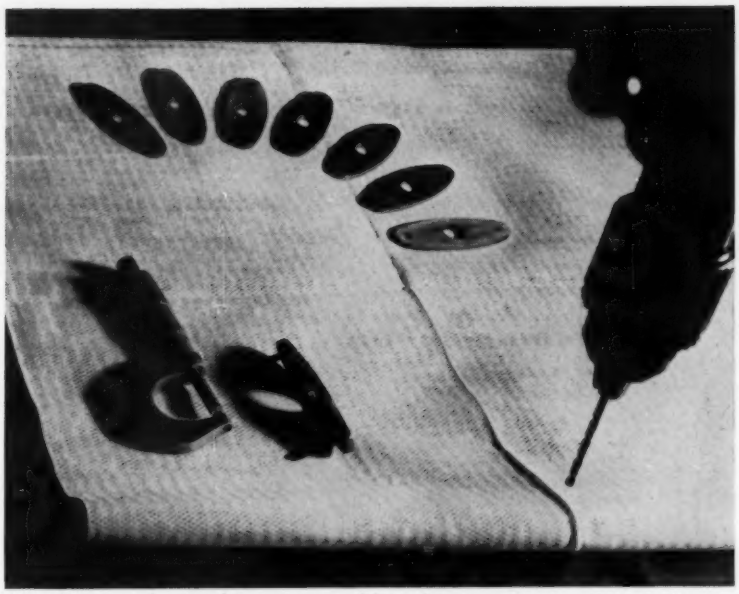
months of 1958, compared to 23.5 per cent during the same 1957 period. At the same time, Great Britain's share of the U. S. market for imported wool goods declined from 51.7 per cent to 38.7 per cent.

Fiber Patent for Rohm & Haas. U. S. Patent 2,866,256, covering a synthetic fiber "formed of a water-insoluble synthetic polymeric material having a size of 1 to 100 denier" has been issued to Rohm & Haas Co. The fiber is stated to be of the acrylic type. The company says, however, that it has no present plans for entering the synthetic-fiber field.

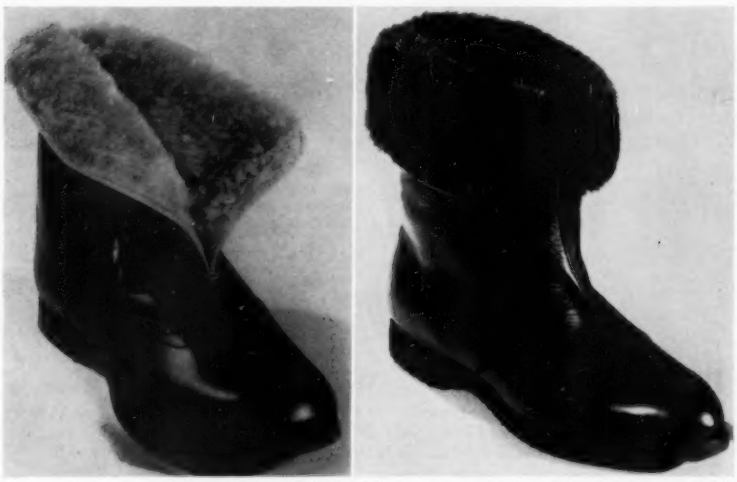
Textile Story for Consumers. American Cotton Manufacturers Institute has recently published a 24-page booklet, "Textiles for You," which gives in laymen's

terms the story of the production of cotton and man-made fibers, yarns, and fabrics, and the importance of the textile industry to the American economy.

U. S. Big Problem to Canadian Cotton Industry. In a recent report, the Canadian Tariff Board says of Canada's cotton textile industry: "Apart from the smallness of the only market to which it can cater (it has virtually no export possibilities) the industry is peculiarly bedevilled by two factors above all others: the infinite and ever-changing variety in pattern, colour and finish of fabrics demanded by its customers; and the presence on its very threshold of the most modern, the most diversified, and the most aggresive



This multipurpose shop towel is a non-woven fabric of 75 per cent rayon, 25 per cent cotton, and is made by Chicopee Mfg. Corp. Above it is used as a background for the inspection of small parts which have been dipped in a solvent and are now in the process of draining and drying.



Boot on left above is lined with rubberized-back acetate-Acrilan knitted fabric with ½-inch pile. Fabric has been treated with silicone water-repellent finish. Boot on right is lined with fabric knitted of dynel and aluminum yarn. Both fabrics were styled and produced by Princeton Knitting Mills, Inc.

cotton-cloth industry in the world, that of the United States."

Modified Cotton for Wash-and-Wear. Joseph Bancroft & Sons Co. has announced a new easy-care finish for cotton fabrics, in which the wash-and-wear features are introduced by permanent chemical modification of the fiber, rather than by addition of a resin. Properties claimed include resistance to wet wrinkling, soft hand, improved dimensional stability, and improved compatibility for resin treatment if desired. The finish, as yet unnamed, will be in full production this summer. [The properties listed are much the same as those claimed for Deering Milliken's "Belfast" wash-and-wear finish, which is also dependent on fiber modification rather than resin finishing.]

Treasury Hasty, Wool Men Say. The topmakers and combers groups of the National Association of Wool Manufacturers have charged the U. S. Treasury with "unseemly haste" in its decision to end a special duty on Uruguayan wool top subsidized through multiple rates of currency exchange. Spokesmen for the wool men strongly disagree that the subsidy has ended.

Statistics Course. The Institute of Statistics at North Carolina State College will conduct its annual statistics methods short course the week of August 10 at Brevard

College, Brevard, N. C. Elementary and advanced sections will be offered. Registration fee will be $125, and enrollment is limited to 50 students in each section. For details, write Division of College Extension, Box 5125, State College Station, Raleigh, N. C.

Confusion in Wool Labeling. In a special industry notice, the National Association of Wool Manufacturers has called attention to confusion on the degree of accuracy required by the Wool Products Labeling Act in stating the

fiber content of wool products. The notice made the following points: 1. There is no specified tolerance for deviation from stated fiber content. 2. Allowance for decoration is not to exceed 5%. 3. Decoration allowance does not provide for fibers other than wool for other than decorative purposes. 4. Only defense for deviation from claimed fiber percentages is unavoidable variation in manufacture, despite due care. NAWM also noted that treatment of tolerances in the Wool Act is not the same as in the new Textile Fiber Products Identifica-

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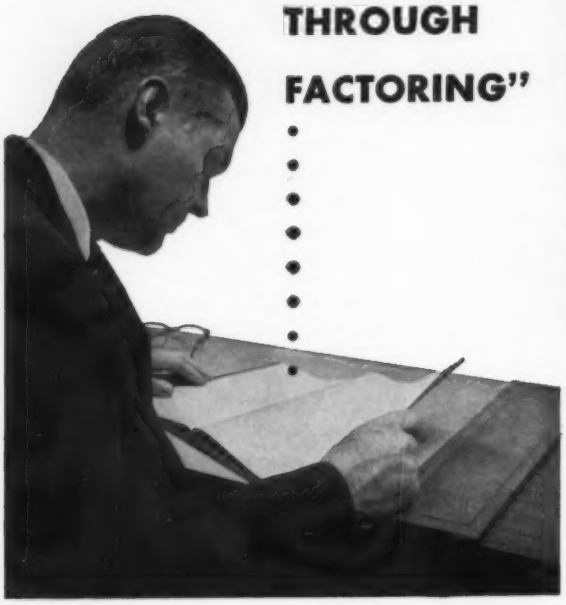

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tion Act, which will govern labeling of textiles not covered by the Wool Act.

Cotton Elasticity Research. A basic study on improvement of the resilience of the cotton fiber has begun at Textile Research Institute, under the sponsorship of the newly created Foundation for Cotton Research and Education. The Foundation has made $15,000 available for the project, and an additional $25,000 has been provided by several mill groups and suppliers — including American Viscose Corp.

Wool Men Set Promotion Goal. Woolens and Worsteds of America, Inc., recently established organization for promotion of American wool products, has set a goal of $300,000 extending over a two-year period to cover its activities. American Sheep Producers Council, initiator of the program, will match dollar-for-dollar the contributions of other members. In addition to producers and mills, memberships are available to suppliers of machinery, chemicals, and other supplies used by the wool industry and to processors of wool in any of its forms.

Merchandising Notes

American Viscose Corp. has announced that its new cellulosic fiber, Fiber 40, is now in limited commercial production, and that the price is 40 cents per pound. Advantages claimed for the fiber include inherent shrinkage control without resin finishing in fabrics made of it, because of its high wet modulus; and adaptability for blending with both cotton and the hydrophobic fibers.

Bates Mfg. Co. reports that its Disciplined wash-and-wear fabrics are now going into bedspreads as well as into apparel uses.

Bemis Bro. Bag Co. has developed an improved acid-resistant thread for the manufacture and closure of multiwall and waterproof bags; the thread is made of a combination of cotton and synthetic filament yarns.

Bradford Dyeing Association (USA) announces a new finish, "Bradset," for foundation garments. Intended primarily for Jacquard-woven rigid fabrics with viscose warp and cotton filling, it is claimed to give dimensional stability without subduing the highlights of the pattern, and to prevent stretching or shrinkage of more than 2 to 3 per cent.

Chatham Mfg. Co. has introduced a line of shrink-resistant wooldynel fabrics, called "Dyna-Wool," through its Chatham Fabrics, Inc., division.

Chemstrand Corp. will sponsor a $100,000 wash-and-wear contest this summer and fall, through Acrilan retailers. Entrants will be required to state in 25 words or less "how I got rid of ironing day blues."

British Nylon Spinners Ltd. has developed a new yarn of the edge-crimp type, Agilon D, claimed to give increased bulk without stretch. It is reported to have been designed primarily for sweaters and other outerwear.

Geigy Co.'s award-winning documentary film, "Insects Astray," which shows how chemistry combats insect damage to apparel and

home furnishings, has been given 800 original and repeat showings over U. S. and Canadian TV stations, and has reached an estimated audience of 20 million viewers.

B. F. Goodrich Chemical Co. is evaluating a new variety, Type X7, of its dinitrile fiber, Darvan, which is said to offer improved dyeability over the regular Darvan now being marketed in pilot-plant quantities.

C. H. Masland & Sons have initiated a lease plan for office-type carpets, under which Wiltons or velvets are leased for three-year periods. Arrangements are handled through Masland retailers.

"McCall's" Magazine reports that a majority of 100 housewife delegates to its second annual "Congress on Better Living" base their decision on labels and brand names when buying sheets and blankets. Salesmen appear to have little influence: Commented one housewife, "Salesmen look on the tag. . . . They don't know any more about sheets than we do." * * * Sixty of the delegates were favorable toward wash-and-wear fabrics, although there were strong differences of poinion. "I have never had any drip-dry that I didn't have to press," was one dissenting comment.

Reeves Brothers, Inc., has been assigned U. S. Patent 2,870,455 on a protective covering for outdoor swimming pools, made of polyolefin open-weave fabrics and marketed under the name "Pooltex." The fabric is lighter than water—it floats—and is impervious to water. Because of its open weave, the fabric permits water to pass through, but keeps out leaves, twigs, and other flotsam. * * * The company is now marketing "Reevestrip," claimed to be the first oriented nylon strip to be commercially produced in the U. S. It is used primarily as a laminate with leather or rubber in the manufacture of power transmission and conveyor belts.

Textured Yarn Co. has announced a new method for dyeing and processing modified continuous filament yarns, claimed to make possible a variety of color and textural effects not achieved before in knitted fabrics. The company reports that it will not only design but will also market the new fabrics.

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Consultant to the Textile and Allied Industries
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FIBERS AND YARNS

Straw-Like Rayon. Du Pont is producing a straw-like rayon under the name "Divona." It will be recalled that Industrial Rayon Corp. introduced a yarn of this type, identified as "Tiaralon," early last year.

Acrylic Fiber Developments. Spun-dyed "Wolcrylon" staple is reported to be forthcoming from an East German producer. In the U. S. A., solution-dyed Orlon has been available only in black, while dynel is offered in a range of colors normally used in pile fabrics. One of the newest foreign acrylic fibers is that being made by the Japanese Toyo Rayon Co., and a short time ago Du Pont disclosed plans to build a new Orlon plant in the Netherlands.

Polypropylene. Evidence of increasing interest in polypropylene as a textile fiber was seen in the report of the establishment of a new company by the Sun Oil Co. and American Viscose Corp. for the manufacture of polypropylene. The latter company will handle development of this material for the manufacture of film and fiber. [For more on this, see p. 215—Eds.] Up to the present time. Hercules Powder Co. has been the only U. S. producer, with Reeves Bros. and Dawbarn Bros. engaged in the extrusion of continuous filament yarns. The Italian Montecatini interests had provided considerable publicity on the potentials of this new synthetic as a low-cost textile fiber, although low softening point and resistance to dyeing have been recognized as major deficiencies at the present time.

Textured Yarn Blends. Recently introduced on the U. S. market are men's wash-and-wear dress shirts of a fabric composed of Taslan textured Dacron combined with about 20% of textured high-tenacity rayon. The latter component contributes greater comfort to the wearer, due to its high moisture pick-up, at the same time eliminating the objectionable static electricity problem experienced in fabrics of all-Dacron.

Japanese Polyurea Fiber. It has been reported that American firms are showing interest in acquiring manufacturing rights for the Japanese polyurea fiber developed by Toyo Koatru Industries Ltd. Fiber is said to have a low specific gravity —and high dry and wet tensile strength.

MACHINERY AND PROCESSES

Yarn Cleaning. Thomas Holt Ltd. (England) "Yarnspec" electronic yarn inspector is designed to detect rate of change of yarn diameter, and measures the length of the change.

Spinning Kapok. The Belgian International Kapok Corp. is said to have a process for spinning kapok by a method invented over 20 years ago. Woven fabrics, while being soft and fluffy, take on strength with bleaching and fireproofing treatments.

Tension Control for Flat Yarns. An English concern, W.H.K. Products Ltd., has introduced a "Feather Control" device for warping "flat" or delicate synthetic yarns under constant tension control with a minimum of drag.

FABRICS AND FINISHES

Light Nonwoven Backing. Wellington Sears Co.'s "Lantuck" nylon-rayon combination weighing 2¼ oz per sq yd is being sold as a backing for vinyls to compete with knit goods, osnaburgs, and drills. Further saving is claimed since the binder acts as an adhesive for film lamination. Stitch-tear strength is exceptionally high, and the lighter material overcomes the tendency for showing through of heavy woven fabrics

Goldberg Authors New TI Feature

■ A NEW monthly feature giving the highlights of the latest technical and commercial developments in textiles the world over begins on this page.

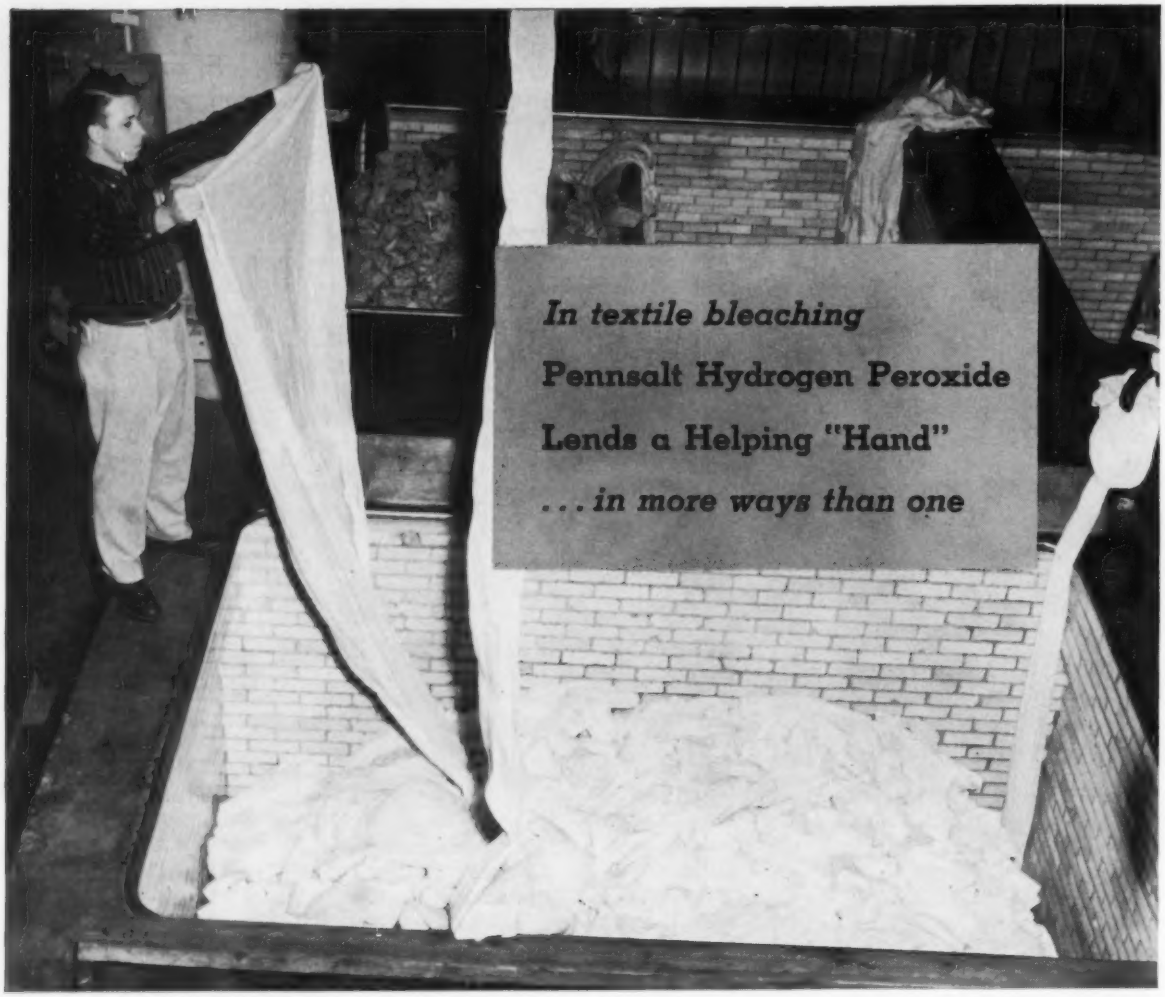
J. B. Goldberg, who is preparing this regular feature exclusively for TEXTILE INDUSTRIES, is well known as a consultant to the textile and allied industries.

Mr. Goldberg

Following early experience as a chemist for the Celanese Corp. of America and as a director of research and development for the Slater Mills, he became associated with J. P. Stevens & Co., Inc., as research director in 1937. After serving in this capacity for 16 years, he entered private consulting practice in 1953.

Mr. Goldberg has written many articles, authored a book on "Fabric Defects," and has lectured on a wide range of subjects in the U.S.A., Canada, and several European countries. He will be remembered by TI readers as editor of our special "Man-Made Fibers" features in 1957 and 1958, and as author of "Textile Research Achievements," an annual feature.

He is at present retained by some of the leading fiber producers as well as several mill organizations in an advisory capacity on almost every phase of fiber and fabric technology, dyeing and finishing, and new developments in general.



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when vinyl film is thin.

New Textile Lubricant. "Mykon SF," manufactured by an English company in which Warwick Chemical Ltd. and Sun Chemical Corp. are partners, is an aqueous dispersion of polyethylene, claimed to give improved resistance to creasing, abrasion, and static.

Blankets from Pleated Terylene. I.C.I. Fibers Division proposes the use of durably pleated Terylene-cotton blend fabric as a layer between the sheet and a thin cover to provide a cell-like insulating medium. Thermal insulation is said to be equal to that provided by normal woolen blankets with many advantages, including low cost.

Resin Odor Control. Easton R. S. Corp. is reported to be producing a new chemical additive, "RFB-X353," to be used in a catalyzed resin bath before padding. Product absorbs free formaldehyde, although no control is claimed for odors emanating from unwashed and un-neutralized triazone resins.

Improving Hand of Dacron. Process developed to improve liveliness, drape, and covering power while providing a warmer hand to Dacron fabrics involves calendering, heat-setting, and treating with caustic soda solution.

Reducing Pilling Tendencies. Method patented by Deering Milliken Research Corp. to reduce pilling in fabrics containing at least 40% staple polyester fiber comprises application of an aqueous emulsion of a thermoplastic vinyl resin, then heating briefly to a temperature as high as the resin softening point.

Antistatic Finish. Farbwerke Hoechst AG (Germany) is offering a new antistatic finish for 100% polyester fabrics, claimed to retain a soft hand while eliminating the usual glassy or greasy effect characteristic of many of these fabrics. Treatment involves impregnation of the fabric with an auxiliary developed by Hoechst, drying, and curing.

Mild Cure Catalyst for Cotton Knits. Quaker Chemical Products Corp. offers new mild cure catalyst containing aluminum chloride and some magnesium chloride, and is suitable for curing resin and reactive finishes at temperatures 50-100 F lower than those ordinarily used. As another suggestion, speed may be increased while imparting good dimensional stability and reduced tensile strength loss.

TEST METHODS

Evaluating Wash-and-Wear. As an improvement over proposed photographic standards showing different degrees of wrinkling, the Monsanto Chemical Co., is offering to the trade at a nominal cost a series of plastic three-dimensional replicas of fabrics. It is suggested that these provide more accurate reproductions and contribute to more certainty in rating.

SEASONAL PEAKS

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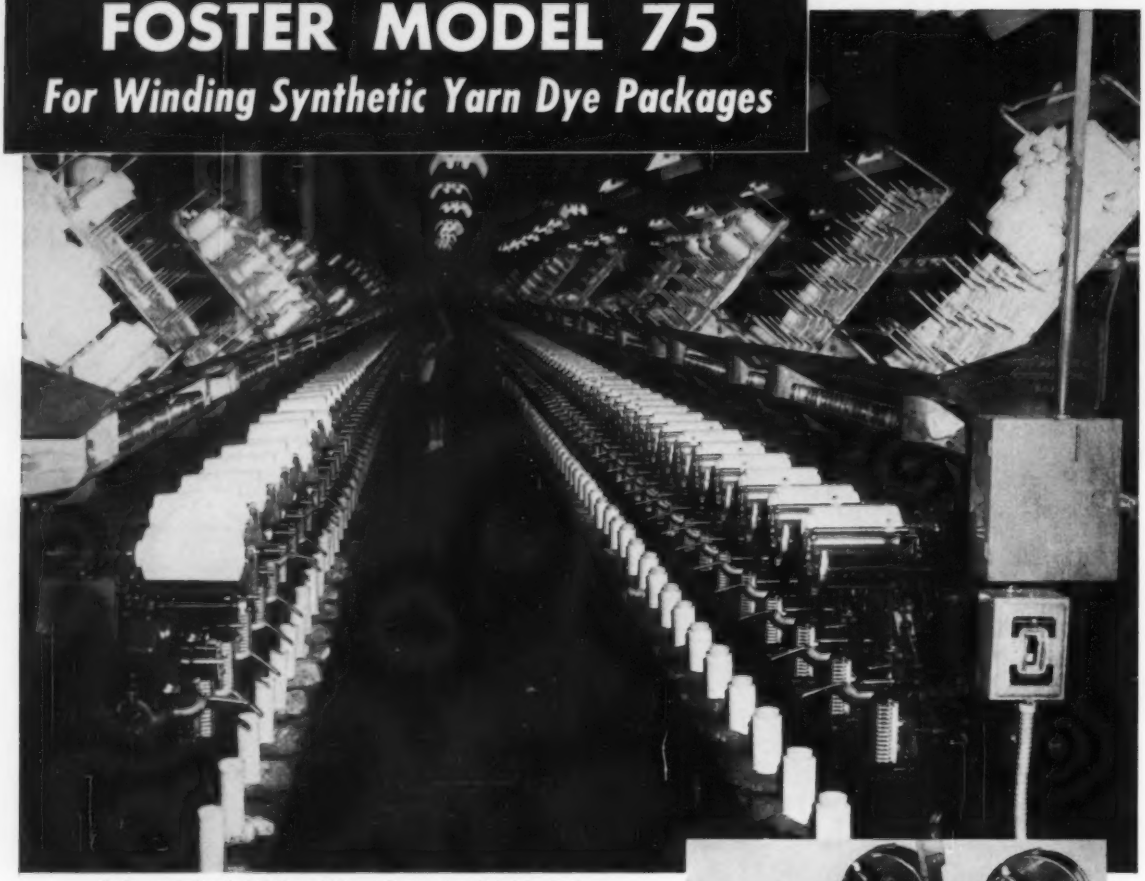
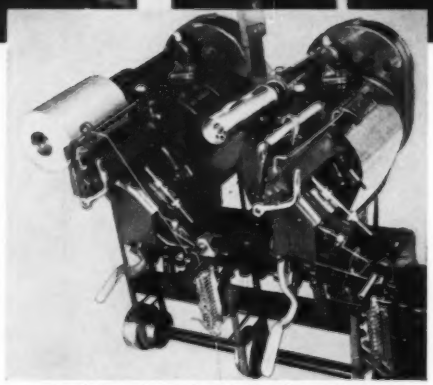


Package winding installation at Elmore Corporation, Spindale, N. C.

2 FEATURES THAT PROMOTE BETTER DYEING

One feature is the special attachment which accurately controls the density of the package, thus permitting extra softness. This extra softness compensates for the tendency of the yarn to pack and swell when wet and permits ready penetration of the dye liquor.

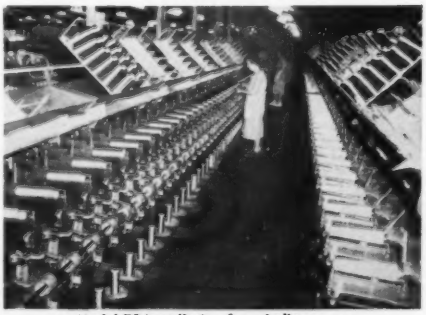
The other feature is the open or honeycomb winding pattern, instead of a diamond pattern. This again promotes free circulation and thorough penetration by the dye liquor.



Special attachment for winding dye packages on Model 75.

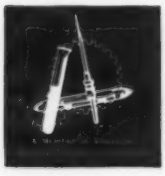
OTHER ADVANTAGES

The Foster Model 75 has other basic advantages which make for maximum utility and high production at low cost, such as:—convertibility for cone winding, ball bearings, non-wear spindle drive, yarn oiling attachment (optional), gear gainer attachment, relatively high winding speed (up to 1500 r.p.m.) and 180° belt contact on each spindle.



Model 75 installation for winding cones at Elmore Corporation.

See our exhibit at Knitting Arts Exhibition — Sections 82-84 and 99-101A.



FOSTER MACHINE COMPANY

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656-B

EXECUTIVE VIEWS

America's textile industry – envy of the world

by Robert E. Pomeranz
President, Roberts Co.

Exclusive

THERE is a curious tendency among many Americans, and especially in the textile industry, to suggest that the products we make are not as good as those made in foreign countries. Sometimes this pessimism takes the form of a statement that "everything new comes from abroad."

But such is positively not the case. The past and present history of our industry provides sufficient proof of the major contributions made by Americans in the development of new textile products, new markets, new high-speed machines and processes, and in the perfecting of a continuous stream of cost-cutting techniques.

Several basic American ideas made textile manufacturing into a mass-production industry. The invention of ring spinning by John Thorpe in 1828 was followed by the development in 1844 by others of the traveler in its present form.

The Northrop automatic loom, developed by Draper Corp. just before the turn of the century, was the first single shuttle automatic loom and allowed one weaver to do the work of ten.

Howard Colman invented and developed five very basic high production tools which were manufactured here long before any foreign countries started to copy these ideas. The original warp drawing-in and warp tying machines, the high speed warper, and the hand knotter are all credited to Barber-Colman.

The B-C automatic spooler, a most remarkable cost reducing and quality improving process, was a uniquely American invention forty years ago, and is still today unchallenged by anything similar made abroad.

IT IS INTERESTING to note that even now, as in those days, a large proportion of the most outstanding improvements and inventions are stimulated and produced in the mills, rather than by machinery manufacturers. Certainly no one group has any monopoly on ideas, but rather there is a joint and dynamic effort to improve and to perfect.

The practical conversion in the mill of synthetic fiber tow into staple form has been a recent American development. James Lohrke's invention was taken over by the Turbo Machine Co., and Bob Wilkie's brain child became the Pacific Converter, made by The Warner & Swasey Co.

The recent development of high-bulk yarns was patented by William Michael of Delaware Mills. Today millions of pounds of high-bulk tops and yarns are being exported annually from the U. S. to points all over the world.

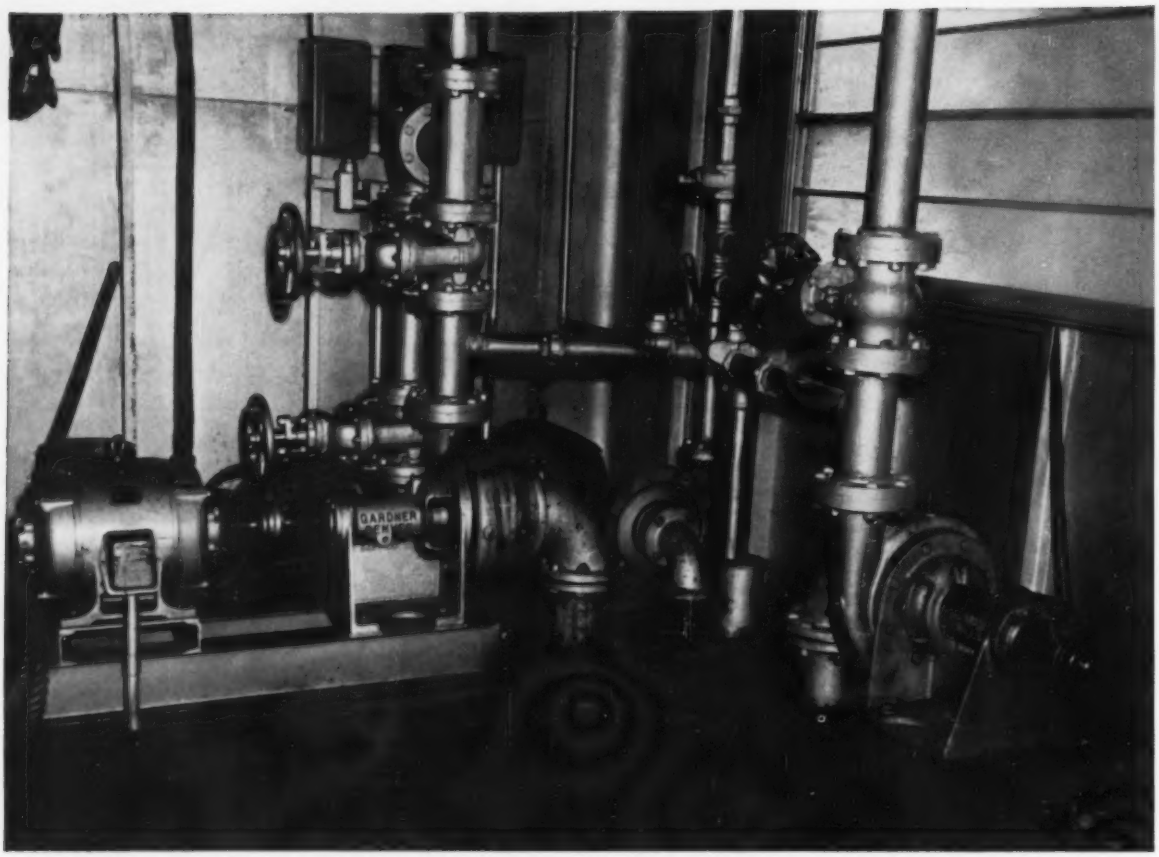
The Pin Drafter, developed by Bachmann - Uxbridge Worsted Corp., and made by Warner & Swasey is another tremendously effective American piece of equipment for long-fiber yarns that does not yet have a match elsewhere.

The new high speed drawing frames for cotton, with speeds in excess of 400 feet a minute, are an American development, with Ideal Industries, Whitin, and Saco-Lowell leading the way.

THE CONCEPT of large package spinning was developed by Eugene C. Gwaltney just a few years ago. The Saco - Lowell Gwaltney frame, joined a year ago by the Whitin Piedmont frame and the Roberts Arrow frame, are completely American products which are today producing bigger packages at higher speeds than any machines made elsewhere in the world. Several foreign machine manufacturers are trying to copy the designs.

In the field of worsted yarn manufacturing, the concept of a shortened process from the older French and Bradford systems was mill-inspired in the United States twelve years ago, and brought to successful mill operation by the Whitin American System, and

"Our . . . industry serves as a model . . . for the diversity of our products, for the standards of production, and for the quality and consistency of our output."



Your Gardner-Denver pump specialist has a quality pump for heads up to 300 ft.—for capacities up to 2000 g.p.m. See him soon.

All set for efficient pumping though heads may change...and volume, too

TESTING NEVER ENDS

Superior product performance is never an accident. Skilled Gardner-Denver men continually test Gardner-Denver equipment against rigid specifications to insure uniformly high quality in product after product. At Gardner-Denver *there's no substitute for men*—our 100-year philosophy of growth.

Gardner-Denver centrifugals deliver peak performance over a broad range of service conditions . . . take variations in head or volume efficiently. Available in a wide range of sizes—to handle a wider-than-usual range of capacities and pressures. Ask your Gardner-Denver pump specialist to help select the best centrifugal for your application, or write for bulletin.

- Extra large shafts to assure continual alignment.
- Heavy-duty ball bearings.
- Casing of high-strength alloy iron produces gradual velocity changes for smooth flow, better efficiency.
- Mechanical seal for long life without attention.
- Hydraulically balanced impellers.

EQUIPMENT TODAY FOR THE CHALLENGE OF TOMORROW

GARDNER-DENVER

Gardner-Denver Company, Quincy, Illinois

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more recently by the Roberts Shortflo System.

The Unifil loom winder, a development of Universal Winding Co., has already created an interesting place for itself not only in many American mills but in foreign lands.

One of the most outstanding American developments in its industry-wide and world-wide spread is the perfection of practical high draft in the range from 30 to 60 by the Springs Cotton Mills with a group headed by Thad Flowers. The full story of this tremendous accomplishment has still to be written, but there is not a mill in this country and scarcely one anywhere in the world which has not been directly affected by it.

Not the invention of any one part or any machine, this development is the combination of numerous elements and close scrutiny of their importance in the over-all result of achieving high drafting with better yarn quality, higher spindle speeds, and ends down of twenty and under. The Springs accomplishment is a typically American success story directed towards better quality at lower costs.

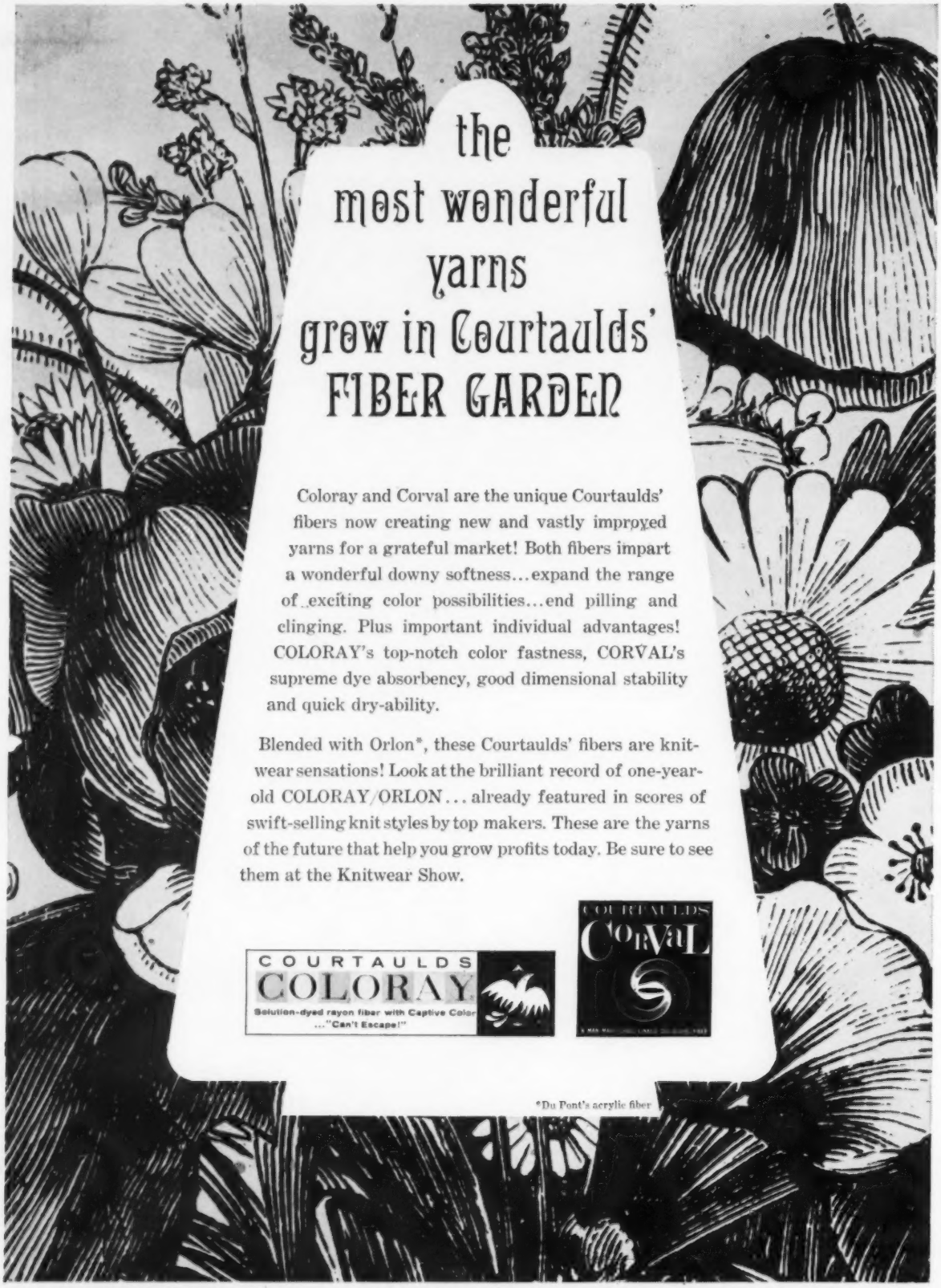
IN ANY INDUSTRY as basic to mankind as textiles, it is only natural that there would be thinking people all over the world producing inventions, innovations, and improvements. It is sometimes difficult to determine from what country the idea stemmed or whose took precedence. The examples given here are a few which show distinct areas of American Textile Leadership. There are many others which deserve mention too.

Those Americans among us who are pessimists can find strength in these and many other truly American contributions to the textile art, and in the impatient urge and dynamic leadership in America to produce better products at lower cost.

Today our American textile industry serves as a model for plants all over the world—for the diversity of our products, for the standards of production, and for the quality and consistency of our output.

FUTURE EVENTS

DATE		EVENT	LOCATION
Apr.	2-3	Textile Subcommittee, AIEE	Heart of Atlanta Motel Atlanta, Ga.
	3	South Carolina Division, Southern Textile Association	Fairforest High School Spartanburg, S. C.
	3	Hudson-Mohawk Section AATCC	Chelsea House Tribes Hill, N. Y.
	4	Niagara Frontier Section AATCC (joint meeting with CATCC)	Hamilton, Ont.
	9-11	Alabama Textile Manufacturers Association annual convention	Hotel Beuna Vista Biloxi, Miss.
	10-11	Piedmont Section AATCC	R. E. Lee Hotel Winston-Salem, N. C.
	11	Northern North Carolina-Virginia Div. Southern Textile Association	Lexington High School Lexington, N. C.
	15-16	ACMI Fiber Testing Lab open house	Clemson House Clemson, S. C.
	16	National Knitted Outerwear Association annual banquet	Waldorf-Astoria Hotel New York City
	17	Western New England Section AATCC	Rapp's Restaurant Shelton, Conn.
	17-18	Delta Kappa Phi Fraternity annual convention	Roger Smith Hotel Washington, D. C.
	18	Southeastern Section AATCC	National Guard Armory Cedartown, Ga.
	22-25	The Cotton Manufacturers Association of Georgia annual convention	The Diplomat Hollywood Beach, Fla.
	23-25	Phi Psi Textile Fraternity annual convention	Biltmore Hotel Atlanta, Ga.
	24	Rhode Island Section AATCC	Engineering Society Providence, R. I.
	25	Textile Operating Executives of Georgia opening, picking carding, and spinning discussion	Ga. Tech Atlanta, Ga.
	25	Eastern Carolina Division Southern Textile Association	N. C. State College School of Textiles, Raleigh, N. C.
	28-29	Institute of Textile Technology technical advisory committee and board of trustees	I. T. T. Charlottesville, Va.
	29-30	Fiber Society, Inc., meeting	Fontana Village, N. C.
May	2	Alabama Textile Operating Executives slashing and weaving discussion	Thach Auditorium Auburn, Ala.
	2	Mid-West Section AATCC	Schroeder Hotel Milwaukee, Wis.
	4-8	Knitting Arts Exhibition	The Auditorium Atlantic City, N. J.
	4-5	Hosiery Industry Conference and National Association of Hosiery Manufacturers annual convention	Claridge Hotel Atlantic City, N. J.
	5	Underwear Institute annual meeting	Hotel Traymore Atlantic City, N. J.
	6	National Knitted Outerwear Association reception and cocktail party	Hotel Shelburne Atlantic City, N. J.
	12-15	Textile Institute annual conference	Scarborough, England
	12-14	Cotton Research Clinic	Grove Park Inn Asheville, N. C.
	13-16	Tufted Textile Manufacturers Assn. annual convention	Hollywood Beach Hotel Hollywood Beach, Fla.
	14	National Association of Wool Manufacturers annual meeting	Waldorf-Astoria Hotel New York City
	14-16	Carolina Yarn Association annual outing	The Carolina Pinehurst, N. C.
June	18-20	Southern Textile Association annual convention	Ocean Forest Hotel Myrtle Beach, S. C.
Sept.	28-29	American Gas Association Textile Processing Symposium	Sedgefield Inn Greensboro, N. C.
Oct.	7	Chemical Finishing Conference	Statler-Hilton Washington, D. C.
	8-10	AATCC National Convention	Sheraton Park and Shoreham Hotels Washington, D. C.



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Coloray and Corval are the unique Courtaulds' fibers now creating new and vastly improved yarns for a grateful market! Both fibers impart a wonderful downy softness...expand the range of exciting color possibilities...end pilling and clinging. Plus important individual advantages! COLORAY's top-notch color fastness, CORVAL's supreme dye absorbency, good dimensional stability and quick dry-ability.

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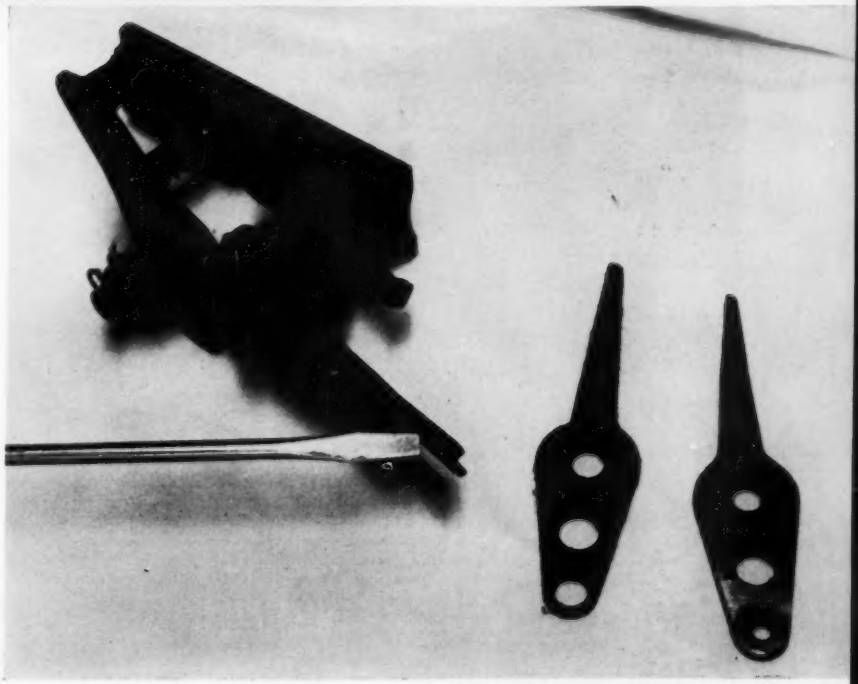
Textile Industries
FOR APRIL 1959

RUNNING HEAVY FILLING?

A firm experienced in making heavy fabrics highlights major causes, and preventives, of filling difficulties on automatic looms

Heavy fillings transfer often and wear filling transfer motions in proportion. Secondhand J. R. Fowler here checks a thread cutter for cutting and holding power.



Usually when filling coarser than 12s/1 is used, the steel blade at the extreme right is placed in the thread cutter in lieu of the fiber one to its left. This change prevents much jerked-in filling.

Staff prepared Exclusive

PIEDMONT Cotton Mills, East Point, Ga., weaves (or has woven) just about any industrial fabric one cares to name. This array includes such items as chafer fabrics, sail ducks, flag scrim, filter twills, and 1/0 duck. Out of that experience comes a wealth of information, critical points to be observed and controlled if one is to stay out of real trouble with fabric quality, pertaining to filling motion maintenance. Some of that information is listed herein.

Typical fabrics produced: Hopsacking, 18 x 18 construction, both warp and filling made by twisting

"Box leather must be kept in very good condition," management states, "for the heavy counts are easily crowded in the shuttle groove to cause bad tension. Shuttle wall grooves must necessarily be kept deep, too." Mr. Fowler inspects the leather at the box mouth. "The heavy warp yarns will deflect the shuttle easily and cause fast wear both at the box mouth and on the shuttle. Before you know it the leather is gone," said Mr. Fowler.

An extreme example of the wear that front binder leather will undergo in a relatively short period—the shuttle was not flying true (shedding difficulties or misalignment) and was suffering proportionate wear. It had long since begun pinching filling.

one end of 5.5s/1 with one end of 17s/1. An alternate construction is 16 x 16 with warp and filling consisting of one end of 4s/1 twisted with one end of 17s/1.

Nylon filter twill, 48 x 36 construction, both warp and filling made of spun 13s/2. An alternate construction is 38 x 36, using the same spun 13s/2 nylon yarn in both warp and filling.

Cotton filter twill, 36 x 25 construction, both warp and filling made of 12s/4 yarn. An alternate construction, using the same warp and filling yarns, is 36 x 32.

Loom Power. Operate with the least power possible. While this is a good point to observe in all weaving, it becomes critical in the heavy counts inasmuch as the coils loosen more easily than they do in lighter filling. Once a coil of heavy filling does come loose, it is likely to snarl, plug the shuttle eye, wreck a selvage, or break the pick. Some of the nylon fillings used actually stop the shuttle without parting.

Box Leather. Usually the heavier fillings are associated with heavy warp yarns. In this case the yarns, if they offer the slightest interference with the shuttle flight, deflect the shuttle enough to cause it to eat away the leather at the box entrance. But this is a minor point and one easily seen. Shedding motions can be set and timed to avoid most of it.

The subtle damage takes place inside the box. The thick filling demands so much clearance between the box leather and the shuttle wall that the fixer accustomed to lighter yarns will likely overlook the fact that the leather is almost filling the shuttle-wall groove. This is a fertile source of tension trouble.

Just as important is the groove in the shuttle wall. This must be kept deep enough to accommodate the filling even after the box leather begins to mold itself to fill the groove. In essence, maintenance requires deeper grooves than for finer yarns, and it dictates that box leather be kept in better-than-average condition. Regular and frequent inspections are given the looms to detect such symptoms before they give rise to actual trouble.

Characteristically, the grooves begin to wear away first near the shuttle ends. When this symptom occurs the shuttle is dressed and repaired and the shedding motion

and alignment checked for malfunctioning.

Thread Cutters. The fiber blade used on lighter fillings is replaced with a steel blade. The softer fiber wears away so quickly that it soon fails to hold the free end after transfer. With the frequent transfers incidental to heavy-filling weaving, and with the added difficulty of cutting and holding such heavy yarns, failure seems to take place suddenly—one moment the thread cutter is functioning perfectly; the next moment it is impotent.

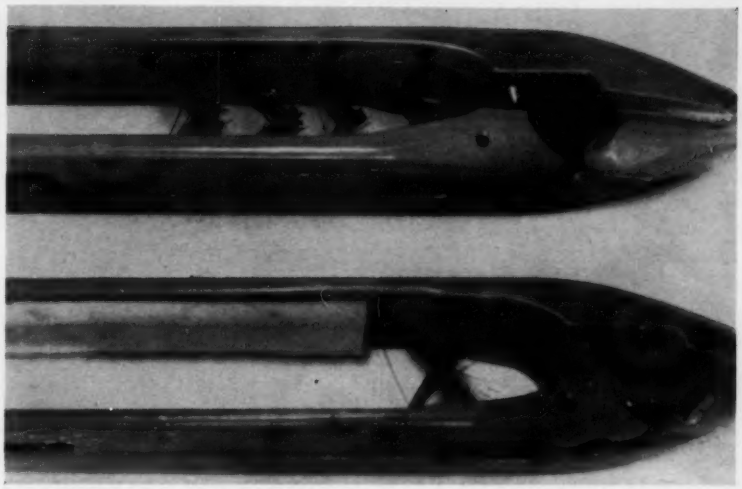
Failure at this point causes jerked-in filling and broken picks, both of which are strictly intolerable in most industrial fabrics. As a result, both supervisors and loom fixers inspect constantly, frequently testing by hand the cutter and its holding power.

Temple knives wear rapidly, also, and must be replaced at the first sign of trouble, which generally is a fuzzy appearance of the severed ends along the selvage next to the battery. If these ends are not cut away immediately after transfer, they are pulled around the temple and plucked from the cutter grip, free to be carried into the fabric.

Shuttle Tension. Stiff bristles are used to keep the filling under control as it whips in coils from the quill, straightens out, and passes through the shuttle eye. On the plied fillings no fur is used, four tufts of bristles being arranged on each shuttle wall near the eye instead. The bristle tips nearest the shuttle eye rest on the tip of the quill (on the first quill groove) to assist threading the eye on the first pick after transfer.

On the singles fillings the bristles are placed in the same position near the quill tip that is used for the plied numbers. But only one pair of tufts is used, and these are positioned on opposite sides of the shuttle in keeping with the direction of filling wind. Instead of fur, these shuttles are fitted with a cloth strip (wool) clipped to the shuttle wall. Shuttle eyes, of course, are changed to "right" or "left" as the filling wind dictates.

Although the probability of faulty shuttle tension breaking the heavier fillings is quite remote, the tension is none the less important. The real damage is done to the selvages.



The shuttle at the top is bristled for plied filling; the one below, for single yarns.

The end use of the industrial fabric often requires plain selvages in which no extra ends may be added. Thus a too-powerful tug from the filling will core, burst, or button hole the selvages. Too-little tension encourages the usual filling loops, kinks, etc., and often lets the filling drop out of reach of the filling knife at transfer.

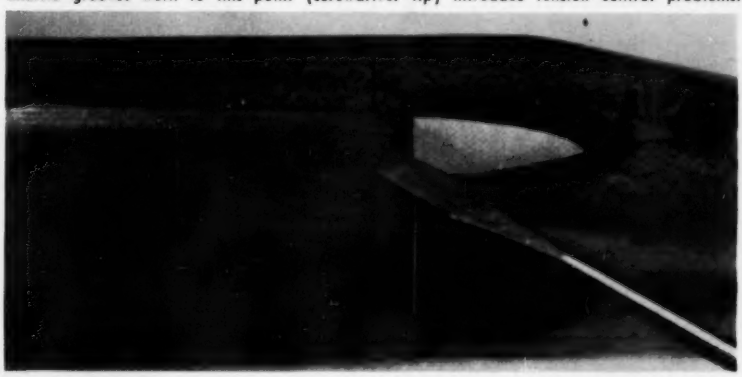
Management has no hard-and-fast rule for changing the fiber plate of the cutter to one of steel. Much depends on the filling yarn itself, whether it is made of nylon, cotton, etc. But if cotton yarns coarser than 12s/1 are used, there is every likelihood that the steel plates will be fitted to the cutters.

Naturally, filling motion wear is not restricted to the parts or motions just mentioned. Every part is subjected to more wear than would be experienced in weaving sheetings, for example, and must be corrected accordingly. But the major points of trouble, and fast wear, have been covered.

Such items as bobbin guides, transfer arms, transfer hammers, and pawl require added attention. But these parts are not likely to fail without adequate warning, and since they are not replaced with enough frequency to merit special attention in this study, they are given only bare mention.

In summary, Piedmont's management would give this parting advice to those interested in entering coarse-filling weaving: "Prepare to inspect and 'tune' transfer motions more frequently than you ever thought necessary, and prepare to replace more worn parts than you ever thought would be needed."

Shuttle grooves worn to this point (screwdriver tip) introduce tension control problems.

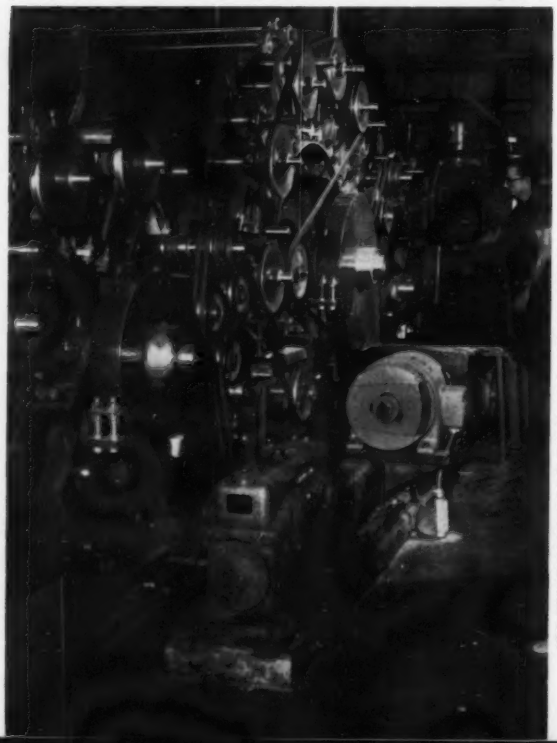


Part of Roxbury Carpet Co.'s new 13,440-square foot card room, showing finisher sections of the 84-inch cards. These 8 cards replaced 12 two-cylinder 60-inch cards. This modernization increased carding capacity by 55 per cent, at a cost of more than $500,000.

Wool carding capacity boosted 55%

when eight 84-inch cards replaced twelve 60-inch cards in Roxbury Carpet's half-million-dollar modernization

In this view of motors, gear reducers, and drives for the finisher card, note use of V-belt throughout. The 84-inch finisher card, where the bulk of carding is done, is equivalent in productive capacity to one and a half of the old 60-inch cards which it replaced.



PHOTOS COURTESY OF DAVIS & FURBER MACHINE CO.

Left: After opening on a 60-inch breaker card equipped with three workers, the web passes through a burr crusher and is separated into six webs, which are superimposed on an endless belt to form a feed on the finisher feed table. These six webs, times four overlaps on the feed apron, equal a total of 24 doublings, to give a balance of weight and blending unmatched in the mill's former carding operation. Right: Operator makes adjustment of tension on web of finisher card as it enters the divider rolls of the tape condenser. At right in photo is variable speed unit for finisher doffer drive, which enables control of roving weights without stopping card.

Staff prepared Exclusive

A FEW short years ago, the Roxbury Carpet Co., Saxonville, Mass., manufacturers of Axminster and velvet carpeting, began to take on a decidedly different look. In a series of carefully considered moves, the company diversified and expanded to attain a position today, on the 100th anniversary of its founding, among the top dozen carpet makers in the country.

The need for such a rapid growth came about for several reasons. For one thing, new concepts in carpet manufacture had begun to encroach upon the old methods of creating textures and patterns. Together with new fiber developments, these new technologies created a wider line of carpeting materials, which began to affect sales of traditional carpet lines. The Axminster carpet, for example, long a part of Roxbury's lifeblood, had begun to lose in consumer appeal, thereby weakening the company's profit picture.

Being fully aware of such trends, in a market that promised to become even more complex, Roxbury made its first move toward diversification by acquiring a southern tufting operation at Chattanooga, Tenn. Known as Roxbury Southern, and originally comprised of only two tufting machines, it has since been expanded to four machines, and its plant area has tripled in size.

Not much later, in 1956, to strengthen its position as a manufacturer of staple carpet lines, the company entered the production of Wiltons, for which a steady demand remained. For a time the company considered starting its own Wilton operation, but decided when the opportunity arose to acquire the going Whittall Co., well-known Wilton manufacturers in nearby Worcester, Mass.

Roxbury's latest move, into the knitted carpet field, achieved the desired diversity. Today the company offers the changing market Axminsters, Wiltons, and velvets, and the relative newcomers, tufteds and knitteds.

Centralized Yarn Manufacturing. From a manufacturing standpoint, this diversification program called for some consolidation. Accordingly, two major moves were made. Yarn manufacturing was discontinued at the Whittall plant, and a new mill was built on the premises exclusively for weaving Wiltons. And to meet the much larger demands for yarn which were created by expansion, a modern addition was completed in early 1958 at the Saxonville plant, thereby centralizing all yarn manufacturing under one roof.

In accordance with projected plans, the new yarn mill is now meeting requirements of both the Saxonville and Whittall operations. What yarn capacity remains is devoted to the needs of Roxbury Southern. Since the yarn mill went into production early last year, it has been operating on a three-shift, six-day per week schedule, making yarns of wool, man-made fibers, and blends.

The new mill offers 13,440 square feet of processing area per floor. The layout of equipment and auxiliary facilities, which afford an efficient routing of stock and roving, reflect the sound planning that has gone into this three-story structure, where temperature and humidity are controlled the year round.

From the first floor, where scouring, blending, and picking take place, the stock is blown to the floor above for carding. And an endless conveyor moves the spools of roving to the spinning department above where they are removed at the appropriate sections.

By no means the least im-

portant operation in yarn manufacturing, carding came in for a big share of the planning. In fact, to a large extent it determined the size of the new mill. The major problems in planning and laying out the carding operations were first of all in determining how the required capacity would be met.

8 Cards Replace 12. Roxbury's decision to modernize its carding operations goes back about six years, when management began to seek ways of increasing production in anticipation of more competition. At the time, Roxbury had 12 two-cylinder 60-inch cards of various designs, with little standardization of parts. But since a preventive maintenance program had always been in effect, the cards were in good working condition and management undertook to revamp the cards in a joint program with the card manufacturer's engineers.

In the process of modifying the cards and conducting production trials, it was found that an increase in production could indeed be achieved. But at the same time interest began to grow toward modernization which would offer greater economies and operating advantages, not to mention the desired increase in production.

Toward this end, a new carpet card, of a somewhat different design, was evolved, and put into production. Actually, it was a modification of a standard Model L woolen card, but of a design suitable for carding carpet wools.

The first section of this experimental model consisted of a breaker card, and a conventional burr crusher to open and clean the stock. Though the breaker was only of 60-inch width, it was adequate to feed the 84-inch finisher card, where the bulk of carding was done.

The model underwent exhaustive trials under production conditions for more than a year, during which modifications were made and features added with these objectives in mind: to achieve production and quality with ease of operation. The last mentioned objective was not the least important, by any means. For if the machine proved too troublesome, requiring frequent adjustments, neither production goals nor quality standards would be met.

At about this time, Roxbury's diversification and expansion programs were well under way, and top management had made a decision to build a yarn mill. Since the experimental card had been pronounced satisfactory, Roxbury purchased seven additional cards of this design.

To feed the new installations, there are storage bins, three for every two cards, located only a few feet from the feeding end. The card feeders are necessarily larger, accommodating about a two-hour run of stock, since the production rate of the new cards is considerably higher. The card has a number of features, including an improved motor drive, which has reduced space requirements by 12" in width; easy adjustment of eccentrics; and there is no need to pick up ends when changing lots.

Fewer Cards; Smaller Parts Inventory. Although the new installations have brought about improvements in yarn quality, Roxbury's quality control group continues with its testing program, to present an up-to-date picture of each card. The need for such quality control, which at Roxbury is carried out as a separate staff function, will always be present. With the cards operating on a six-day weekly schedule, at higher production rates, the need for maintaining proper adjustment of working parts is perhaps even more important.

The work of the QC group in carding can be classified into two broad areas: (1) Testing, to maintain roving quality and uniformity, and (2) Carrying out projects, longer in range, on specific problems relating to improvements in production, quality, or uniformity.

Three tests primarily serve to give the production department an accurate picture of roving quality from each machine: (1) End to end, (2) Longitudinal, and (3) Bank to bank. It is almost needless to point out the value of such testing in maintaining the machines in good year-round condition.

While it is yet too early for a preventive maintenance program to take effect, since the cards have been in operation less than a year, management has definite plans for such a program. One of the big advantages which the new carding installations offers is a reduced inventory of parts, all of which, of course, are interchangeable.

It is too early to present meaningful figures regarding productivity rate and costs since the adjustment period is not over. But decrease in costs of carding per pound has been significant, and Roxbury is meeting its anticipated production goals.

Market research termed essential to profits

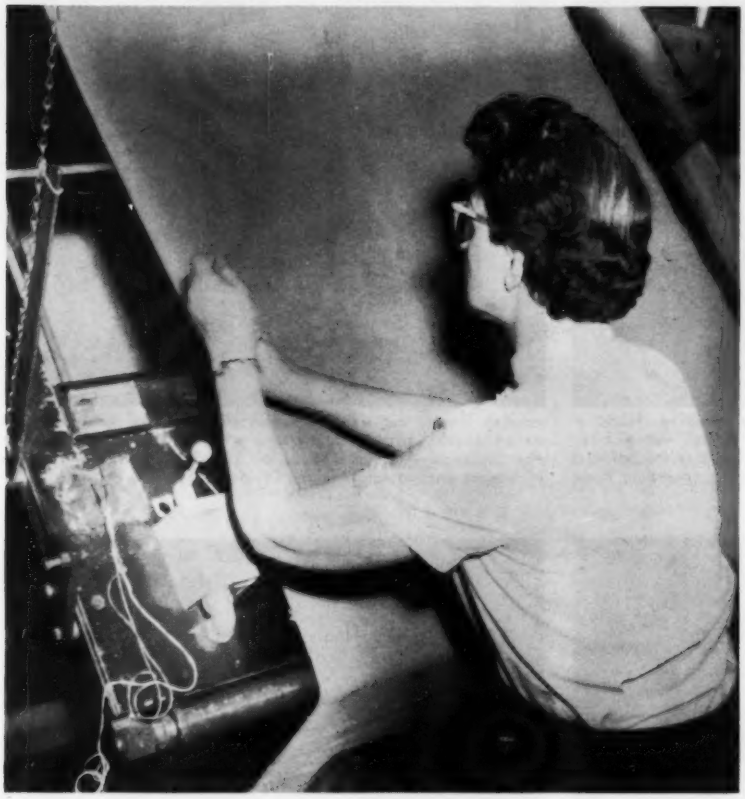
■ EVERY segment of industrial management — engineering, production, finance, and administration—must be represented on a company's marketing team if that company expects to operate profitably in today's complex business world, according to the National Association of Manufacturers.

In announcing publication of a pamphlet entitled "Tomorow's Corporate Marketing Operations," the NAM said marketing can no longer be considered "merely one more isolated function of management."

"In this exciting age of change, marketing is the beating heart of many company operations," the NAM said. "It must be considered a principal reason for corporate existence. The modern concept of marketing recognizes its role as a direct contributor to profits, as well as sales volume.

"No longer can a company just figure out how many widgets it can produce and then go ahead and turn them out. To endure in this highly competitive change-infested market, a company must first determine what it can sell, how much it can sell, and what approaches must be used to entice the wary customer. The president cannot plan, the production manager cannot manage, the purchasing agent cannot purchase, the chief financial officer cannot budget, and the engineer and designer cannot design until the basic market determinations have been made."

Each lot of corduroy that reaches the inspection table is accompanied by a ticket showing its processing history, readable at a glance. This aids in pin pointing any and all defect origins. Finishing requires somewhat less than three days from cutting to shipping.



Corduroy finishing costs reduced

Combining some of the operations, eliminating others, and using an effective cost accounting system placed an already-sound operation on even firmer ground

Staff prepared Exclusive

ASIDE FROM CUTTING, which is an important prerequisite to successful corduroy finishing, the operations which follow it decidedly influence corduroy quality. Though finishers generally agree on the need for basic treatments to obtain a finished corduroy with a uniformly - rounded, directional "pile," the routes they select for obtaining best results vary widely, and depend for the most part on individual experience. Since some phases of corduroy finishing, as in formation of the "pile," are not regarded as precise sciences, the process of "trial and error" has served as the main basis upon which finishing routes are established or modified.

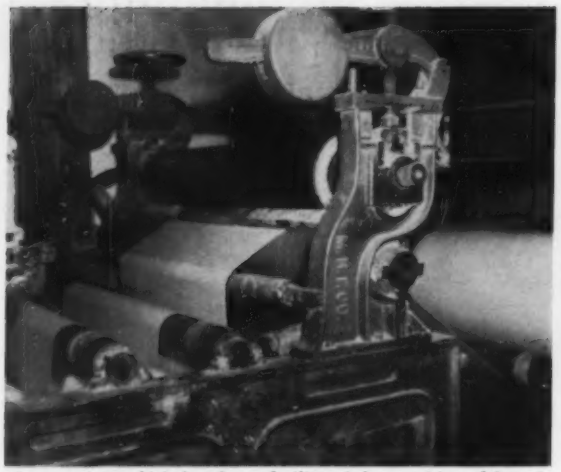
At the Vanetta Corduroy Corp., Lowell, Mass., finishing operations, and the sequence in which they were carried out, had been considered basically sound; moveover, there was no urgent economic pressure to change them, for costs were in line and quality was high. But plant management had been studying its operations for several years with just the goal of orderly change in mind.

For one thing, exhaustive plant trials had shown certain changes to be feasible: some operations, it was believed, could be combined; while others perhaps eliminated. And the resultant operating economies decidedly favored such changes.

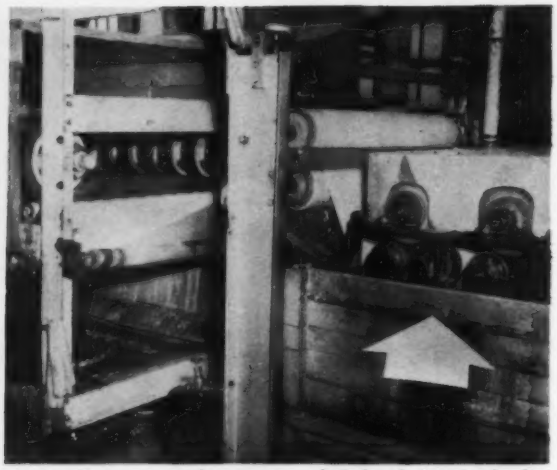
On this basis, a gradual changeover took place, resulting in a more simplified over-all operation, with some re-location of equipment being made within the limitations, of course, of a multistoried plant. Prior to the changeover, more than twenty operations had been considered necessary. Today, Vanetta's operations number approximately fifteen.

With most of its processing equipment located on one floor, together with its continuous dressing-drying range, the handling of goods in process has been substantially reduced. While some intangible benefits have also been derived from a quality standpoint, specific measures had already been in effect at Vanetta to keep working losses at a low percentage.

For over a period of years each

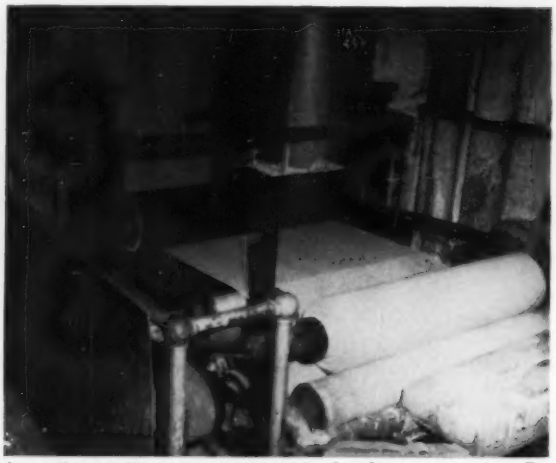


After cutting, which has been facilitated by presizing, fabric is saturated in pancreatic enzyme at 120 F to a high wet pick-up, and batched. Then, after lying overnight, the fabric is scoured and rinsed in four rope soapers set up for continuous operation. Rope



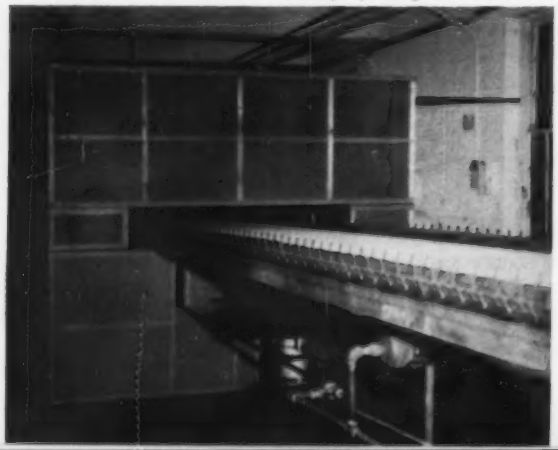
scouring loosens cut wales, prepares cloth for dyeing. In the first section above (arrow) circular brushes orient the pile in a warpwise direction. After squeezing, the pile is laid in one direction by brushes working across fabric. Drying follows.

The delivery end of these dry brushing units located in line with the operations described in the preceding photograph. Here the brushes move in opposite directions to untwist yarns in the pile and to stand them in upright position for singeing (to enhance the pile appearance). A wet crossing operation that follows



(not illustrated) sets it permanently for future processing. The fabrics to be dyed are impregnated with cold peroxide solution (above) and left overnight before rinsing and jig dyeing. Those to be finished white are given additional bleaching (sodium hypochlorite) and, if called for, are tinted with an optical bleach.

A great variety of shades in small yardages does not justify the large investment continuous dyeing equipment would require, thus the presence of jigs. Vats, naphthols, sulfurs, and leuco vat esters are chiefly used at Vanetta with dyestuff selection made on the basis of fastness first and money value second. Selected D and D's are also used for discharge printing and there is a range of shades in the fiber-reactive group. Following dyeing, the goods are vacuum extracted, passed through a finishing formulation, and dried all in one operation. Then, finish dressing, consisting of circular and alternating cross brushes and a "pegger," lends final touches to hand and bloom. In the above photograph, a finished corduroy fabric is being steam framed to width.



operation had been studied and measures taken wherever possible to achieve uniformity in processing. In singeing, for example, a pre-dryer was installed to dry fabric edges, which absorb moisture upon standing in open trucks. This pre-drying, it has been found, assures uniform singeing across the piece, and greater uniformity in the finished "pile."

In peroxide bleaching, formulations were standardized for each fabric, with "whites" receiving additional hypochlorite bleaching in the jig. While scouring in the rope form gives a more thorough "bottom" for dyeing, many variables still remain in the jig dyeing operation which require careful attention on the part of the operator.

To help control these, each operator is given instructions in writing. These include order of chemical and dye addition, temperature and time of dyeing required.

In addition, a maintenance program calls for a weekly inspection of dressing and brushing equipment. Individual brushes are inspected for balance and alignment —a faulty brush in the wet crossing operation, for example, could distort the "pile" to necessitate expensive re-handling. But as sound as these preventive measures are, controlling quality still remains a day-to-day chore of supervisory and operating personnel.

Cost Accounting Pin Points Costly Procedures. One of Vanetta's most effective management tools is its cost-accounting system. Simple in outline and execution, it affords management, on a weekly basis, a comprehensive cost breakdown of individual operations. Its real advantage lies in the fact that it is available for management's study on the second day of each week.

Thus, a quick glance at the cost of each operation, per yard of goods processed, readily reveals fluctuations from previous week's operations. These costs per yard are carried out to five decimal places, and only a slight rise in the last two places can indicate a plant condition worthy of investigation.

A rise in cutting costs may indicate grey goods not up to standard; while a rise in dyeing costs may indicate that a troublesome shade had required additional dyeing time. In sum, the cost control system enables management to investigate quickly and correct a plant condition before losses run into many dollars.

Adaptable to Market Changes. Vanetta processes corduroy in weights ranging from 5 ounces to 1 lb per yard and higher, in lots from 500 yards into the thousands. In its files there are more than 2,000 dye formulations, and in any given year as many as 250 shades are dyed to customer specifications. Leuco vat esters, naphthols, vats and sulfurs are chiefly used, along with D & D's for discharge printing.

Because the plant is oriented to the small lot, "trial runs" have become a regular thing at Vanetta; not only in the evaluation of new dyestuffs and finishes, but also in the development of improved processing techniques.

A rather substantial inventory of finished corduroy is kept on hand for immediate shipment. A card filing system on each shade in stock is kept up to date for guidance in controlling inventory.

To help forecast color preference trends of the market, Vanetta maintains up-to-date information on each shade with quantities dyed and shipped, which indicate whether a given shade is gaining buyer acceptance. Along with a measure of "crystal ball" gazing, such data likewise help to control inventories.

Of the factors that keep Venetta competitive, sound finishing operations with a decided trend toward simplification, and a realistic cost-control system are among the most important. And, of course, a flexibility which enables rapid adaptability to changing market conditions.

3-week summer course for mill men at Clemson

■ A SHORT-COURSE program in textiles, offering five courses, will be conducted this summer, Dean Gaston Gage, Clemson College School of Textiles, announces.

Courses beginning June 15 are planned, in order, in yarn manufacturing, fabric development, supervisor development, motion and time study, and quality control. Each course will be presented as a full-time program, running for three weeks with no classes on Friday afternoons or Saturday mornings. No entrance examinations nor college credit will be given, says Dean Gage.

The courses in yarn manufacturing and fabric development are designed "for a young man who has chosen a career in textiles but has not attended a textile school." He may be a high school or college graduate, says Dean Gage. The courses will stress what he is "least apt to learn" on a training program, or by experience.

The supervisor development course is planned for broadening of first line supervisors. Courses in quality control and motion and time study will serve the specialist or supervisor who needs indoctrination in these fields. Enrollment in quality control will require some knowledge of college mathematics, and applicants must be at least high school graduates.

Beginning dates for the three-week classes are June 15, in yarn manufacturing; July 6, fabric development; July 6, supervisor development; July 15, motion and time study; July 27, quality control. This schedule enables a student to take more than one course. Courses may be repeated, says Dean Gage, if there is sufficient demand.

Courses in yarn manufacturing, fabric development, and motion and time study will include both theory and laboratory.

Supervisor development will embrace theory and laboratory. Basic areas to be covered are responsibilities, the new employee, plant morale, sources of handling complaints, how to instruct, non-financial incentives, progress reports and graphs, work schedules, positive attitude, self-development and management textbook. Additional areas will include management movies, outside reading, mill tours, role playing, and public speaking.

The course in quality control will be theory only. Subject matter will begin with statistical theory and calculations upon which statistical quality control is based, and will detail types of control charts found in industry. Emphasis will be on textile industrial applications.

How to quickly determine spinning room efficiency

Supervisors of other mill departments will also find the method useful

by Mara Havinoviski—Exclusive

IT IS sometimes necessary to determine the over-all efficiency of a department without prolonged studies in order to:

(1) Check the reasonableness of given data or reports; (2) Set preliminary standards when no accurate data is available; and (3) Get a quick idea as to variation in efficiency by comparing old and new methods of doing work and by studying effects of fatigue, influence of new equipment, etc.

This procedure is based on the widely used statistical theory that adequate random sampling will give data representative of a whole. Our own experience shows that when this concept is properly applied, the information obtained does very closely reflect actual conditions.

To provide an illustration of this procedure we will select the spinning room and endeavor to determine the over-all efficiency. In other words, we shall consider the status of all the spindles in the department—ends down, empty spindles on running frames, and idle spindles on frames stopped due to doffing, repairs, etc. We can also get a good idea of spinners', doffers', and others' share of the over-all efficiency.

The procedure consists of taking such a count during several quick patrols through the spinning room. For example, let there be one patrol on Tuesday at 10:00 a.m., one at 1:20 p.m., and one at 4:35 p.m. Or a count could be taken over a period of several days. The greater the number of patrols the more accurate will be the data obtained.

However, one should be careful in making certain that the patrol occurs only during significant productive periods, and not, for example, during a change of shift, during lunch time, or early on Monday morning. We must expect fluctuations in results from every patrol. In any event, the average of these results should give us information close to true conditions. Results should be disregarded when they are drastically different from other patrols, as they undoubtedly reflect unusual conditions while we are only interested in determining the normal conditions.

Example. Assume patrols were made in a spinning room with a capacity of 18,256 spindles on 83 frames, and the three patrols taken on Tuesday gave the following averages:

1064 spindles idle due to missing bands and tapes, frames stopped for repairs, frames stopped for changeovers, etc.;
2160 spindles being doffed and waiting to be doffed;
1705 ends down.
Total unproductive spindles (4,929) plus
total productive spindles (13,327) equals 18 a total of 18,256 spindles.

The 13,327 productive spindles represent an average over-all efficiency of approximately 73%. The 4,929 unproductive spindles indicate that about 27% of the room is unproductive. Of this percentage, 12% is the responsibility of doffers, 9% is due to spinners, and the remaining 6% is the result of other functions such as maintenance, etc.

Method of Counting—the Supervisor. To facilitate the counting, obtain the number of various frames stopped for any reason (doffing, repairs, etc.) and multiply them by the number of spindles on each. To these figures add the number of spindles that are idle on running frames. The largest portion of the patrol time is spent in counting the number of ends down. An average patrol of this room did not take more than 15 minutes.

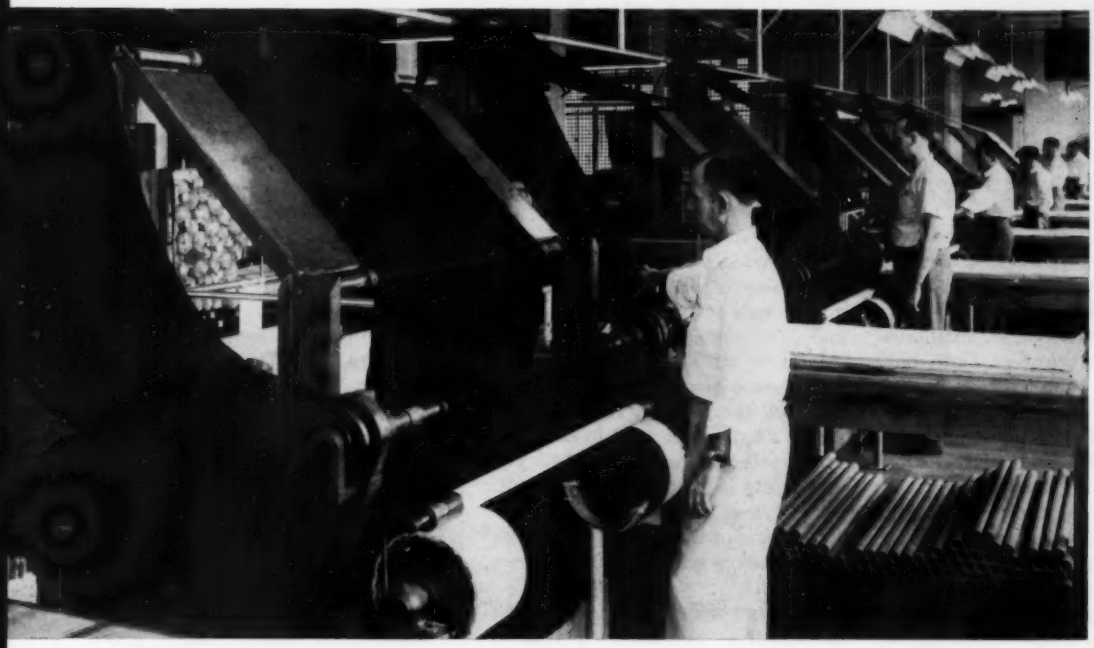
In addition to the enumerated advantages of this procedure, any supervisor who is involved in a great many details of his work (and who is not?) can get a better perspective of operations along with supporting data. He will see things as they are for himself, and this is sometimes more significant to him than is a bunch of figures from reports prepared for him.

For instance, in the described situation, he may not have been acutely aware of the number of spindles that are just idle. Now, he will question this condition, and if it is more important and easier or quicker to remedy than his other current problems, he will take appropriate action.

The writer is also of the opinion that an objective view is achieved. The procedure, by its very nature, tends to provide the supervisor with a rather detached view of the situation. Thus, it can help him take more direct and prompt action than when subjectively burdened with current routine and the need for finding protective reasons.

One interesting result had been that the foreman requested the help of the time study engineer who made the necessary observations and suggestions for

(Continued on page 219)



Grading the finished fabric

by Efraim Z. Cohen
Textile Technologist

Exclusive

EVERY textile mill has had problems concerning the grading of the final product.

The importance of having accurate control in determining the quality of the material produced by a mill, is well recognized by top management. I shall try to outline in this article an efficient procedure, and suggest to those interested in the subject ways that can be followed in order to have scientific control in grading.

Fabric Quality Control Program. The fabric quality control program is usually administrated by a fabric quality control supervisor, who has the following duties:

a) Maintain a uniform grading system which actually defines the company's grading policy.

b) Issue standard grading instructions and specifications for all fabric groups produced by the mill, to all concerned with grading of finished fabric.

c) Train and check production graders.

d) Supervise the issuance of fabric quality reports.

e) Act as liaison between the mill and customers on matters dealing with fabric quality complaints.

Managers, production department supervisors, and the grading foreman should see to it that the grading instructions are followed. In cases where the instructions are not clear, or are incorrect or unreasonable, the superintendent should consult with the fabric quality control supervisor.

Grading instructions should not be changed without the authority of the fabric quality control supervisor, so that a uniform control can be maintained.

Uniform Grading System. There are many grading systems in use, each with the purpose of more-or-less accurately classifying cloth styles and giving a clear definition of the quality of cloth that the mill can actually produce. The system which I shall use in explaining each function of the fabric quality control supervisor will be the Point Grading System.

In the point grading system, a defect in the cloth is assigned either 2 or 4 points, according to its length. The thickness of the defect is also taken into consideration if it is excessive, as in the case of coarse slubs, loose waste, etc.

If a defect is assigned 2 points, it is called a minor defect; if assigned 4 points, it is called a major defect. Generally speaking a minor defect is one that does not have to be removed from the cloth by the cutters; a major defect must be removed.

If a defect is less than 9" long, it is a 2-point minor; if 9" or more, it is a 4-point major.

Defects such as waviness, heavy marks, broken filaments, etc., for which points cannot be assigned on a length basis, are graded differently as explained later. To each yard of cloth only one 4-point major may be assigned.

The number of points allowed for each piece of 100 yards of cloth should be very carefully decided; it will represent the policy of the firm in classifying its products, and accordingly in setting prices. In many cases, for certain qualities of cloth, management may set special provisions for grading, by taking into consideration marketing price and other factors connected with the quality standard that can be produced by the mill.

Standard Grading Instructions. A manual should be issued and maintained by the fabric quality control supervisor. In this manual the company's grading policy should be defined and all standard grading instruction sheets inserted. Similar manuals should be kept by all persons connected with the grading of the cloth, as well as by the merchandising office of the company.

Those connected with grading are responsible for seeing that grading instructions are followed.

The following is a general classification of cloth qualities:

Grade	Description
A	First Quality
B	Second Quality
X	Short Lengths and Waste

"First Quality" may be defined as cloth in which the number of defects is not considered excessive. The types and number of defects are those which cannot be prevented under normal production conditions, with reasonable care, and whose removal would be uneconomical. This quality is the optimum.

Cuts of cloth are "Second Quality" when the number of defects exceeds the purchaser's tolerance and when the cut is less than say 44 yards in length, regardless of the number of defects. This cloth contains types or number of defects beyond the reasonable control of the producing unit. However, the defects are not such as to prevent shipments of this fabric to certain customers.

"Short Lengths and Waste" are fabrics which, because of the type or number of defects, do not meet purchaser's standards. Under normal circumstances, such fabrics should be cut up and disposed of at discount prices.

A full piece is one of 44 yd or more; a half-piece is 24 to 43¾ yd; a short length is 10 to 23¾ yd; and waste is anything less than 10 yd. A piece of any length is assigned one of the three grades, except that waste pieces are not graded.

A defect which is more than 9" in length is assigned 4 points; a defect less than 9" long is assigned 2 points. As a rule when the defect happens to be exactly 9", an allocation of 4 or 2 can be made according to the seriousness of the defect. The cloth is examined yard by yard with the maximum number of 4 points alloted per yard. The total number of points per piece will determine the grade of the cloth.

The number of points per yard for A, B, or X grade is determined and from this a table is made which shows the grade of the piece according to its yardage, and the corresponding total number of points. This is to make easy a quick determination of the grade for any length of cloth. It could be called an "allowance table" or "quality table." *Table 1* is an example.

In order to determine the point basis per yard that we will use for each quality and style of cloth, we follow this procedure:

A number of pieces of a particular style of cloth is examined and 2 or 4 points scored for each defect according to its length (minor defects 2 points, major defects 4 points). We keep this record on a working sheet (*Figure 1*). After examining the cloth by the point grading system we then run the pieces over the examination table again and decide for each piece whether it is an A, B, or X quality, basing our decision on experience and a fair judgment of the quality of the piece.

Then by dividing the total number of points by the yardage of each piece the point basis per yard for the piece that we called an A, B, or X is obtained.

For example, 20 pieces of a certain style averaged 70 points per 100 yd. All these pieces were reasonably judged to be of A quality, therefore a point basis per yd for A quality was set as 0.70 points. Similarly, we might have another 20 pieces of the same style or quality of cloth averaging to, say, 125 points per 100 yd. These pieces would be classified as B quality, thus setting 1.25 points per yard as average basis. Any piece above 1.25 points per yard could be cut into short lengths.

From then on a standard grading basis is set for the fabric and the making out of the standard grading instruction forms which are placed in the manual. These standards are constantly being revised and improved to suit the quality produced by each mill.

It is also advisable to purchase a few pieces of competitors' fabrics and compare their standards for A quality.

Many times by cutting off a few badly defective yards from the beginning, the middle, or the end of the piece we can reduce the point total to that of an A or B quality piece.

Figure 2 illustrates a standard grading instruction sheet.

It is important to define each defect and to predetermine the number of points which should be scored to it according to its length, seriousness, etc. Other helpful remarks and notes should also be included on the standard grading instruction sheet.

Classification of Defects. All defects appearing on a piece of cloth can be broadly classified as weaving, dyeing, or finishing defects. Weaving defects can be subdivided into warp, filling, and mechanical. These subdivisions are further divided into single defects.

The following are definitions for the most common defects appearing on the cloth, and suggested scoring points for each:

TABLE 1. Determination of Grade

Grade	10	20	30	40	50	60	70	80	90	100
A—Up to	8	14	22	28	36	42	50	56	64	70
B	10-12	16-26	24-38	30-50	38-62	44-76	52-86	58-100	66-112	72-124
X—Above	14	28	40	52	64	78	88	102	114	126

Figure 1

WORK SHEET FOR FABRIC GRADING

BATCH NO.	QUALITY		SHADE		NO. PIECES		EXAMINER		DATE	
PIECE NO.										
DEFECTS	Maj.	Min.	Maj.	Min.	Maj.	Min.	Maj.	Min.	Maj.	Min.
WEAVING										
Warp										
Filling										
Mechanical										
DYEING										
Dye Spots										
Dye Stains										
Endingness										
Too Tender										
FINISHING										
Marks										
Tear										
Creases										
Soil										
Holes										
TOTAL POINTS										
GRADE										
Yardage										
Width										

Warp Defects

DOUBLE ENDS: Occur when two ends run into the same heddle eye or harness and are woven together.

LOOSE ENDS: Any end or ends running slacker than the rest of the warp.

MISREED: An end or ends in the wrong dent of the reed.

WARP STREAKS: Ends running warpwise which differ in luster or shade from the rest.

WRONG DRAW: One or more warp ends entered into a heddle on the wrong harness.

WRONG DENIER OR COUNT: One or more ends not of the correct yarn number.

Any warp defect of the above mentioned types will most likely appear continuously on several yards and possibly throughout the piece. Any continuous defect of such a nature could be scored 2 points per yard.

FLOATS: A portion of warp that is not interlacing.

SPLIT ENDS: Any end or ends from part of which the yarn has split off.

For these defects the scoring should be:

2 points up to 9″ in length.

4 points over 9″ in length.

If the defect shows continuously, 2 points per yard is a fair scoring.

BROKEN END: A broken thread in the warp. In practice 2 points are scored for each broken end. But if more than say four broken ends show across on the yard under examination, then 4 points are to be scored.

ENDS OUT: Ends which are missing for a portion along the length of the fabric. When we get continuous ends out we may score 2 points per yard. However, when these ends show on a length over 9″ at various points across the cloth, then we score 4 points.

COARSE ENDS: Ends which are coarser or heavier than normal.

WARP SLUBS: Lumpy yarn in the warp.

These types of defects appear on fabrics that have been produced from natural fibers or staple

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the ONLY Cleaner with INSTANT AUTOMATIC AIR CUT-OFF Anyplace over the frame . . . .

When roving frame stops, air from cleaner stops instantly regardless of position of cleaner. Cleaning resumes when cleaner passes over the next operating frame. This instant cut-off prevents doubling, roving breaks, roving stretch between front and flyer cap, sliver breaks and shredding. Your yarn quality goes up as soon as you install this cleaner.

A famous mill, where this new cleaner is in operation, reports a 70% decrease in slubs introduced during this operation. This permits closer spooler settings and results in higher quality yarn. 80% of normal manual cleaning is eliminated.

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Figure 2

STANDARD GRADING INSTRUCTIONS

DATE ISSUED	STANDARD PIECE LENGTH	TYPE OF FABRIC
		STYLE OR QUALITY

DEFECTS	Maj.	Min.	REMARKS
WEAVING			A. See definition of defects and the procedure to determine number of points.
Warp	4	2	
Filling	4	2	
Mechanical	4	2	B. Fabric to be graded yard by yard.
Miscellaneous	4	2	
DYEING			C. Maximum count per yard, 4 points.
Dye Spots	4	2	
Dye Stains	4	2	D. Defects less than 1/2" from the selvage should not be taken into account.
Endingness	4	2	
Too Tender	4	2	
FINISHING			E. Shade and finish to be checked by the head of the grading department.
Marks	4	2	
Tears	4	2	F. Check carefully at seams for uneven finish.
Creases	4	2	
Soil	4	2	NOTE: If you have any doubt, check with your foreman.
Holes	4	2	
Miscellaneous	4	2	

GRADE	POINTS ALLOWED PER 100-YARD PIECE
A	70
B	72 - 124
X	126 and over

For lengths below 100 yards see quality table attached.

Figure 3

WEEKLY GRADING RESULTS AND DEFECT ANALYSIS PERIOD W/E_____

QUALITY or STYLE					
Yards Graded A					
Yards Graded B					
Yards Graded X					
Yards Graded Short Lengths					
Yards Graded Waste					
TOTAL YARDS GRADED					
% Graded A					
% Graded B					
% Graded X					
% Graded Short Lengths					
% Graded Waste					
% Graded as A last year same time					
Average Points per 100 Yards A & B					
ANALYSIS OF GRADE X AND BELOW (YARDS)					
WEAVING					
DYEING Dye Spots					
Dye Stains					
Endingness					
Too Tender					
Miscellaneous					
FINISHING Marks					
Tears					
Creases					
Soil					
Holes					
Miscellaneous					

rayons. The scoring is kept normal, that is, 2 points for a minor up to 9" length and 4 points for a major over 9" length.

Filling Defects

BROKEN PICK: A filling thread missing from a portion of the cloth width.

DIRTY FILLING: Filling soiled by oil or grease.

UNEVEN FILLING: An irregular fillingwise appearance in the cloth.

SNARLS: Filling which has sloughed off.

SPLIT FILLING: Part of filling split away, giving a heavy appearance to the end.

The filling defects above are assigned 2 points if up to 9" in length and 4 points if over 9" in length.

LOOSE PICKS: Small filling loops. Here we usually score 2 points if the defect appears on one pick only and not heavily. But when there are several loose picks or one heavy loose pick in a yard of cloth, it is advisable to score 4 points.

SHINERS: Part of a pick which has been stretched. When a shiner shows in only one or two picks and cannot be felt with the finger, 2 points should be scored; otherwise 4 points should be scored.

FILLING BAR: A bar across the cloth, usually the width of one pirn. When this defect shows very lightly on the cloth 2 points are to be scored. If it is prominent, then 4 points should be scored.

SLUBBY FILLING: Waste yarn or foreign material woven in the cloth. For such a defect we usually score 2 points, unless several slubs are separated by a short distance or are scattered throughout a yard; then we score 4 points.

NEPPY FILLING: Small lumps on filling yarn. This defect is only visible in fabrics that have been produced from natural fibers or staple rayons. Because of its slight effect on the appearance of the cloth, no points are scored.

COARSE FILLING: Filling yarn heavier than the other picks. Again, this defect will appear only in fabrics which have been produced from natural fibers or staple rayons. The scoring here is normal —2 points for a defect up to 9", and 4 points if over 9".

Mechanical Defects

CUT FILLING: Broken filling threads. For each cut filling we score 2 points, unless a number of such defects appears over the yard of cloth under examination, when 4 points are scored.

CREASES: Usually caused at batching of several pieces. When we get continuous creases we score 4 points per yard of cloth. If the defect shows only in small creases at various parts of the cloth 2 points are scored.

REED MARKS: These are streaks which appear warpwise and are caused by a defective reed.

TEMPLE MARKS: Pressure marks at selvage.

SHUTTLE MARKS: Warp ends which have been damaged by the shuttle; they usually cause resistance to dyeing.

The above mentioned defects usually appear continuously throughout the piece, therefore we score 2 points per yd of cloth.

OIL STAINS: Spots or stains caused by drops of oil or grease which have fallen from parts of the loom or finishing machine.

JERKED-IN FILLING: A loop of filling pulled into the cloth at filling change.

For these defects the scoring is normal—2 points for defects up to 9" in length and 4 points for defects over 9" in length.

KINKS: Small loops on the surface of the cloth; they can be felt more easily than they can be seen. These loops appear in bunches. When a group of kinks is small we score 2 points. For a larger group we score 4 points. Kinks may also appear continuously or at various intervals on the cloth; in this case 2 points per yd is scored.

MISPICK: A pick incorrectly woven, usually appearing at a length of more than 9" and thus scoring 4 points.

START-UP MARKS: Heavy or light bars across the cloth. If heavy, we score 4 points, 2 points if light.

Dyeing and Finishing Defects

These defects are innumerable and appear usually throughout a piece or even several pieces. Decision has to be taken whether the piece is to be retreated or not. If it is decided not to have the whole piece or batch retreated, we score 2 or 4 points for each dyeing or finishing defect, according to the seriousness of the particular defect.

Training And Checking Production Graders. Another duty of the fabric quality control supervisor is the training of the production graders. At least two hours a week should be devoted to training courses, by taking groups of graders each week separately, so that the effect on production will be at a minimum.

A training program should be scheduled, outlining the various points which will be taught during the training period. Points that could be explained are:

Proper use of the inspection table, and its operation.

Purpose of grading the cloth.

The firm's policy on grading.

Use of the standard grading instructions, their meaning and application.

The information that management can obtain from the final grading department, with special reference to detection of any faulty operation which might have occured before the fabric reached the grading department.

Cloth defects—the types, classification, and procedure to be followed in order to determine their seriousness in point scoring.

The supervisor of the fabric grading department should be the best informed about grading. He should see every batch as soon as it is placed on the examination table and compare its dyeing and finishing properties to see that they are similar to a standard sample of the quality of cloth which is about to be examined.

He should be able to answer any question that a grader may have concerning a defect, and should be able to guide the grader in making the correct decision.

He should also be continually checking on material already examined by the grader and comparing his results with the grader's. In cases where he finds repeatedly incorrect grading he should warn the grader and be able to explain the reasons for his misgrading.

Fabric Quality Records. Management and all concerned department heads should be kept informed of how the quality of the final product is being maintained. Daily reports should also be handed to the fabric quality control supervisor, who will keep a detailed record for each quality or style of cloth produced and issue a weekly report of the grading results with a brief defect analysis for management. In *Figure 3* a suggested type of form for such a report is illustrated.

Finally, complaints should be handled with great care and agreement should be reached between the mill and the customer about the quality of the cloth. Depending on the type of the customer, it may be a good policy to keep him informed of the grading policies of the mill.

NAWM president backs wool promotion

■ IN A letter directed "to all in the wool textile industry," William I. Kent, president of the National Association of Wool Manufacturers, commended the recently announced program of Woolens and Worsteds of America to stimulate the prestige and sales of American-made wool products. [TI for Nov., 1958, p. 130].

Stating in his letter that he was "in full accord with this program," Mr. Kent, who also is president of Kent Manufacturing Co., Clifton Heights, Pa., announced that his company had pledged its support for two years.

The letter is in support of a Woolens and Worsteds of America inter-industry membership drive, now being conducted by the association to raise a $300,000 fund for a two-year national public relations and promotional campaign. Wool growers, spinners, weavers, knitters, felters, processors, and firms in allied fields are being invited to join in the promotion, the first such united wool trade effort in more than 25 years.

Describing the need for the joint project, Mr. Kent writes: "One of the basic desires of each of us in the woolen and worsted industry is to increase the demand for our products. We often complain that other industries can afford to attract consumers at our expense by spending large sums of money on advertising, public relations, and promotion.

"That we individually cannot do this is abundantly clear. Neither the composition nor the financial structure of the industry is such, with a few exceptions, to promote aggressive individual programs of the type required."

Recalling that he indicated, at the annual meeting of the NAWM last May, that there are ways and means by which the industry can help itself, Mr. Kent's letter suggests the Woolens and Worsteds of America program "is a concrete example of what is possible if all segments of the trade participate."

"I feel such a program can be of great benefit to the industry," Mr. Kent states. "The NAWM staff has assisted in every way in drawing up this program and I have personally participated in its development.

"I strongly commend the program to you as I am convinced this is in the direction we must take as an industry to: first, protect our markets and, second, expand them."

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Textile Industries *presents a special feature*

Knitting Mills Stress Flexibility

THE STAGE appears to be set for better business generally and more specifically for the knitting industry.

Mills must remain flexible to take advantage of improved business conditions as they develop, and most mill men agree that it is essential to keep manufacturing operations flexible to take advantage of quick market changes. Keeping flexible involves many details, ranging from maintenance and machinery operation to management and paper work. All phases of mill management influence the factor of flexibility, which is difficult to confine or define in terms of actual mill operations.

Several encouraging signs are in evidence and should serve to stimulate management to act in anticipation. Some of these guideposts follow.

► An increasing proportion of economic forecasts reflects a conviction that the remainder of the year holds considerable prosperity for the United States.

► One source estimates a $16 billion increase in consumer purchases for the year, and employment will increase by about 1.6 million.

► Longer stockings for children are making headway and represent a hopeful possibility for permanently increasing knitting volume in that field.

► Colored hosiery and more emphasis on fashion in full-fashioned serve as valuable tools to sustain renewed interest and activity in that segment of the industry.

► Technological developments are a major factor in improving the market for both men's and women's knitted garments, including sweaters, sport shirts, and similar items. The use of man-made fibers and blends and new treatments and finishes for yarns and fibers, including cotton and wool, help stimulate and widen the market.

► The concept of seasonal obsolescence, color, and fashion serve to improve demand, especially when tied to seasonal promotions.

► Progressive and alert manufacturers of knitgoods do not overlook the important factor of inventory requirements in their operations, and only when this prominent influence is kept in good balance can a realistic estimate of consumer requirements be enjoyed throughout an efficient knitting industry.

► The inevitability of increasing costs should encourage more investment in automatic machinery. Many operations are performed manually because it was actually cheaper to do it that way yesterday or last year in view of the machines and methods known then; however, this is less true today than yesterday and will be even less true tomorrow.

► Leading manufacturers of knitting equipment have announced or will soon introduce new models engineered for increased output and improved design scope. In many instances new machines will be presented to the industry at the Knitting Arts Exhibition to be held May 4-8, in Atlantic City, N. J. Some new models have already been announced.

In view of current conditions throughout the industry and to keep textile products in the limelight, manufacturers must be flexible and ready to create new styles, new fabrics, and to produce what the public shows a desire for at the time demand is present.

The accompanying articles portray some of the current practices of the knitting industry, reported by representatives of the industry, which may serve to emphasize the element of flexibility so necessary to keeping abreast of the market and taking advantage of trends in effective and efficient manufacturing operations.

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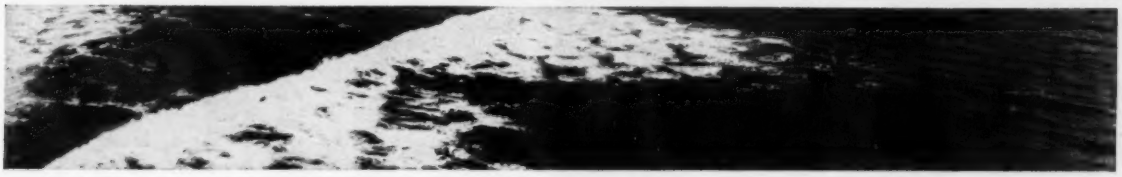
Knitting show and association gatherings scheduled for week of May 4 in Atlantic City



PROFITABLE WEEK AHEAD

for management and operating executives of the hosiery, outerwear, and underwear plants

WITH THE 44th Knitting Arts Exhibition and important meetings of the three knitting industry trade associations scheduled for May 4-8 in Atlantic City, N. J., the five-day period should prove to be most profitable for the more than 10,000 knitting mill management and operating executives expected to attend.

A number of the 214 suppliers to the knitgoods manufacturing industry who have contracted for space (list and floor plan are on pages 118 and 119) have announced their plans for the big biennial event which is sponsored by the National Association of Hosiery Manufacturers, the Underwear Institute, and the National Knitted Outerwear Association.

Thirty of the items which will be shown publicly for the first time are described on pages 132-141 of this issue.

Also on display will be the following new developments, details of which were not available seven weeks before the show when this issue of TEXTILE INDUSTRIES went to press:

H. E. Crawford Co., Inc.—A circular hosiery knitting machine; a thread clipping machine for hosiery.

Dubied Machinery Co.—Two fully automatic flat knitting machines for high production of bulky sweaters and fancy trimmings.

Gordon Industries, Inc.—An automatic trimmer attachment for ladies' hosiery knitting machines.

International Textile Machine Co.—Automatic sock boarding machine; automatic hosiery transfer applicator; machine for automatically inserting cardboards in stretch socks while they are being inspected; automatic ridering machine; air-operated hosiery inspection machine.

Mayer Textile Machine Corp.—Double needle bar raschel knitter for making thermal fabric (waffle cloth); 24-bar raschel knitter for lace.

Jos. Pernick Co., Inc.—Machine for gumming and splitting tubular knit goods.

Scott & Williams, Inc.—Seven new hosiery knitting machines, including four for ladies' seamless stockings, one for crew or bobby socks, one for athletic socks, and one for cushion sole socks. Two loopers equipped with the Automatic Micro Safety Looping Attachment. Three or four new models of underwear and outerwear knitting machines.

Stanford Marley Distributing Co., Inc.—A high-speed pull thread mending machine.

H. J. Theiler Corp.—Winder equipped with a yarn delivery device for unwinding Helanca muffs and winding yarn onto cones at speeds up to 400 ypm; motorized muff expander to simplify putting them onto swifts.

The Torrington Co.—Angular pressed rivet construction for latch needles; needles with new rust-resistant finish for better storage life and cooler running.

Whitin Machine Works—A stretch yarn machine.

Wildman Jacquard Co.—A 48-feed revolving cylinder machine (PB-3) that is designed especially for outerwear trims but may also be used as a high production yard goods machine for double pique, rib, and interlock fabrics. An 84-needle SCOP-SE hosiery knitting machine which incorporates a "straight edge" pattern feature for making straight edge designs over a wide range of pattern possibilities. Two SCOP-type machines—an 84-needle and a 76-needle—equipped with many new features including an improved cutter binder attachment for top yarns, a two-revolution cylinder action, a completely new method of knitting and holding, and fiber pattern discs. A four-cut 30" diameter links machine (LHB-6) designed especially for the "bulky knit" trade.

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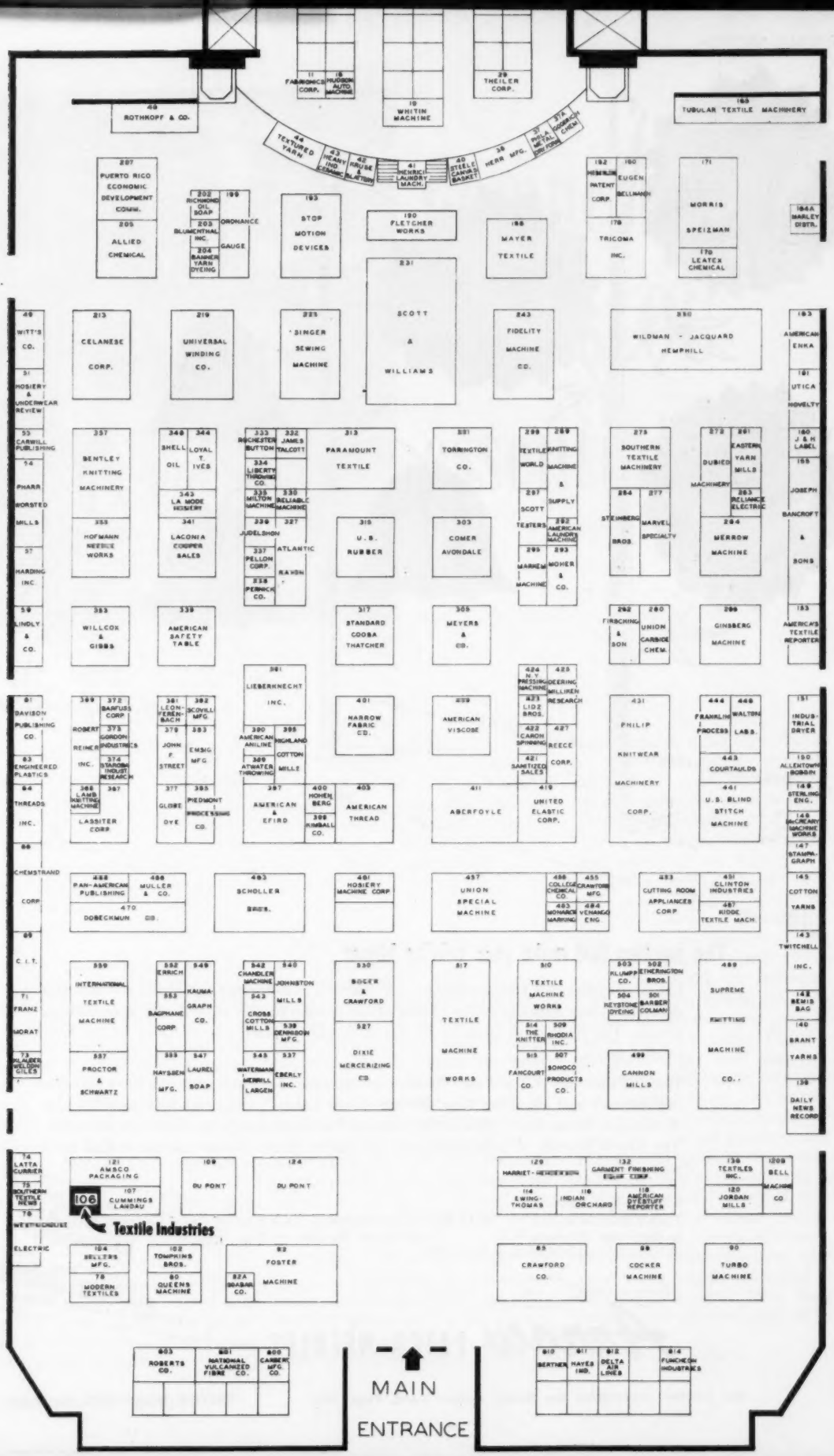
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Arrow LATCH NEEDLES

Method used by one seamless hosiery mill to transport the Volumet from one raised aisle to another without lowering it to floor level. Note the test reports posted on the top of end machines in each row.

Competition makes QC essential

Here are some quality control measures used by modern seamless hosiery mills

by Joseph C. Cobert
Exclusive

ALONG WITH the steadily increasing market for ladies' seamless hosiery there has been a significant improvement in the quality of merchandise produced.

In the years before the unprecedented popularity of circular knitted nylons, most seamless manufacturers were too hard pressed to devote much time or money to quality control measures. As a matter of fact, the quality control methods used by many of the seamless mills in the heyday of full-fashioned hosiery were, by comparison, extremely rudimentary.

As a result of this deficiency, the imperfections commonly found in seamless stockings at that time included flagrant defects such as unusually obvious vertical streaks, very tight and distorted welt fabric, and picks and pulls. Moreover, at the outset of the trend to seamless nylons, not many manufacturers were able to maintain more than a semblance of uniformity. For this reason alone a large percentage of early production lacked a reliable consistency in fitting qualities, a factor which undoubtedly contributed much to delaying the popularity of circular-knit stockings.

During the ascension of seamless stockings, most of the improvements that were achieved by the manufacturers, such as a clearer fabric amazingly close to being streak-free, required large expenditures of money. The money was spent to replace old machines with new ones, and for installation of elaborate streak-control programs. Improvement in welt fabric came as more seamless goods were made on new-type machines, or on rebuilt and better-equipped old ones.

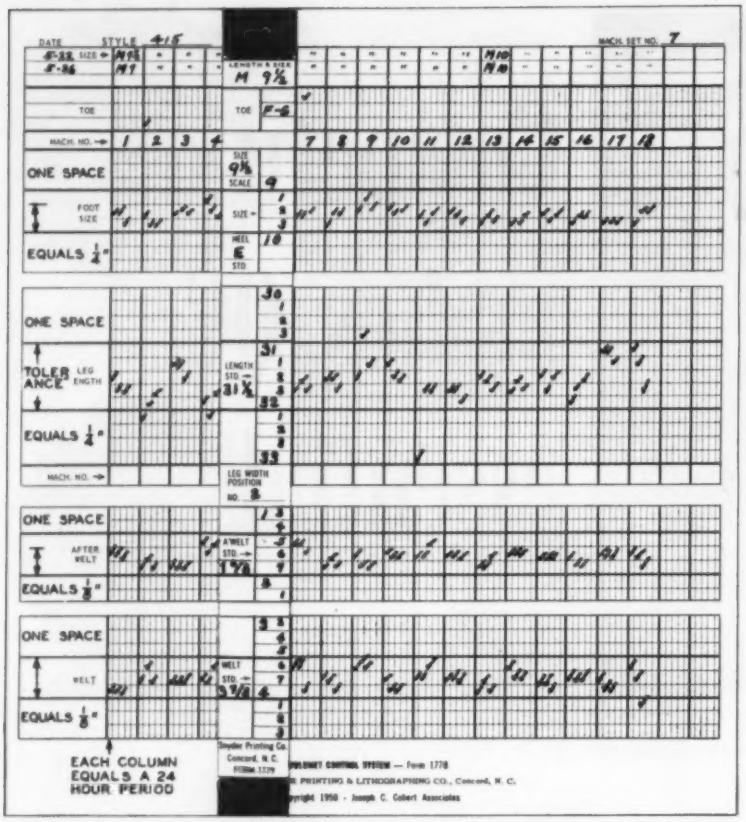
Reducing Picks and Pulls. As for picks and pulls, that is still a problem in many mills, and particularly where grey goods are not preset immediately after knitting. Since it is unnecessary to preset such goods in mills using the preboarding and dryer method of processing, grey production is usually processed without benefit of being preshrunk.

And, to avoid a looping problem, many of the mills that use the Dunn method do not preset grey goods before looping. Naturally this increases the hazard of picks, but here are some of the practical measures that are employed to reduce the percentage:

First, a good nylon knitting oil is used to lubricate the yarn as it passes over felt wicks. Cheap oils are avoided as they usually do not provide sufficient lubrication, and in some cases may even be harmful to delicate machine parts.

Second, the oil bottle clamp is adjusted to permit the wick to feed oil freely to the yarn. In several mills where the oil flow was choked off for safety purposes, there was a sharp increase in picks and pulls. Needless to say these mills hastily resumed former methods, and have sought other ways to keep oil off the floor.

Of course, there are many



Example of a test report and standards strip. The numbers recorded across the report represent the first 18 of a set of 36 machines. Two reports are required for each set. Since the independent standards strip contains all the pertinent data, it is not necessary to record that information on the report itself. As long as the check marks remain within the specified tolerance, no stitch adjustments are made. Actual report size is 10 x 11 inches.

other acceptable methods of controlling picks, such as the required wearing of smocks or aprons, and a daily hand inspection and manicure service. But, from the standpoint of fit and economy, there is one antisnag measure that should be cautiously avoided. It involves the intentional over-coursing of a style to permit knitting a smaller stitch in the upper boot area. This not only causes the finished stocking to lack elasticity in the critical knee area, with the possibility of creating some dissatisfied customers, but it can also be an expensive measure.

Over-coursing stockings is a waste of nylon which requires a higher knitting rate in addition to an unnecessary loss in production. As far as fit is concerned, over-coursing is worse than under-coursing, because preboarding can create a clinging quality, even in stockings that were knitted unusually loose.

But over-coursing is not only resorted to in making stockings more snag resistant. Most micro-mesh styles have been coursed up to help prevent creeping in boarding. However, due to the telescoping nature of a tuck-stitch fabric, most micro-mesh stockings still have satisfactory elasticity at the knee.

Preventing Creeping in Boarding. Creeping in boarding is another reason why some mills refrain from presetting grey goods to reduce their affinity for snags. Steaming causes grey stockings to contract more in length than in width, particularly in micro-mesh fabric, thereby aggravating the creeping condition in the boarding department.

To overcome this condition, a mill in France has weights tied around the toes of each dozen and suspends them, weight down, in the steam box. This elongates the stockings and definitely eliminates creeping in boarding. However, it does leave a slightly wrinkled condition at the toes and, of course, it requires additional handling and expense.

Perhaps a better solution to this problem is achieved by designing the boarding forms to hold proportioned length stockings firmly in place. Proportioned boarding forms have been used by one mill for the past year with notable success. Normally coursed micro-mesh stockings do not creep in preboarding, and the finished product meets with approved stretch standards at all critical parts, including the knee. But many boarding forms in use today are too narrow and too tapered off at the flare, especially for boarding the shorter, smaller sizes.

For Better Length Control. As for improving length control in seamless mills, complete air conditioning has been an important factor. Since it is impossible to maintain consistent product uniformity in knitting mills, where temperature and humidity are subject to much fluctuation, many mills have wisely invested in air conditioning.

In addition to this helpful factor, Du Pont engineers have made further improvement to length control possible by developing the DKM bobbin with the CRTR and QRTR wind. This new jumbo package holds about twice the amount of yarn normally wound on the maple bobbins.

The RTR method of gradually winding on yarn from the bottom to the top of the bobbin, instead of reciprocating the winding stroke throughout the package, decreases the varying tensions in yarn delivery. This good feature of the DKM bobbin, plus the fact that bobbin changing is cut in half, eliminates a considerable degree of length irregularity.

Competition between synthetic yarn producers will undoubtedly lead to even greater progress in the development of a package with a more uniform tension delivery. Recently mill men have been reporting interesting results

(Continued on page 142)

by Walter B. Snow
Exclusive

multiple assignments in f-f

Pro and Con

AFTER operating under the multiple machine assignment plan for some time, it may be worthwhile to review and list some current advantages as well as problems coming from this type of operation.

A number of mills have been in this type of operation for several years and most mills for the past 1½ to 2 years. After this length of time, much has been gained in the knowledge of what can be expected and what can be done on this type of machine assignment. It may be worthwhile to analyze what has been learned, in order of importance.

(1) Labor turnover is vital. As mentioned previously (T.I., April 1958), on going to multiple assignment the fact that men helpers would not be satisfied over a period of time with the helpers' earnings still holds true; therefore, the biggest majority of helpers are women, which has caused quite a bit more labor turnover than you would ordinarily expect with men.

Some of the causes are: pregnancy, too dainty for this type of work, health problems, size, and not wanting shift work. These are all common reasons and have been true for years throughout other sections of the textile industry.

The big question is how to have a minimum of labor turnover from these causes. First, it is important to do a number one job of selection; get the right size woman of correct weight, height, and health. Question applicants freely about health and desire and need to work. You can screen out a lot of potential troubles at this point; and while it is true you may miss some good ones by being too selective, the advantages outweigh the disadvantages in this procedure.

Second, be sure those selected get the proper training and learn to do the job right. If an operative learns to do things the right way, she seldom forgets it or deviates from the right way; however, if taught the wrong way, she is hard to change.

Management cannot push or drive anyone successfully, and this is an outdated way of working anyway. It is necessary to lead people, especially women, and make them want to do a good job simply because they desire to do a good job. People are in some ways like machines—you can only get so much out of them and if you try to exceed this point you can make people quit their jobs. We must remember too that people are the most important tools, and they must be kept reasonably happy or we stand to lose in more ways than one.

(2) Training is more important than ever. As the things mentioned in Item One begin to happen, we must anticipate needs far enough in advance to train new helpers. This keeps many mills in an almost constant training and retraining program. This also brings up questions and problems as to who is going to do the training. If you can have one or two operators who are your best or among the best to use as instructors, they can do a good job of instructing.

These operators should be conscientious about their job and the type of work they do. They should be the best on quality and know what comprises a good stocking and what the various defects are in a stocking.

They should be trained as instructors on important points in operating the machines, as well as quality and knowing a stocking. They should be neat in all phases of the work to set an example for the new operator.

Also, if a woman is doing a good job and likes her job—and these two things go hand in hand—chances are the new learner will "inherit" these same qualities. Some contend that knitters make the best instructors in view of their technical knowledge of machinery. This is a good point and certainly has its merits but primarily you are training machine operators and not knitters.

(3) Quality and waste must be considered. This is one point that has improved with experience, and although it is still a controversial subject with mill men regarding final results, it has leveled off at a point a little higher than it was under the old arrangement employing one knitter to a machine. Training and retraining are important factors so far as these two items are concerned.

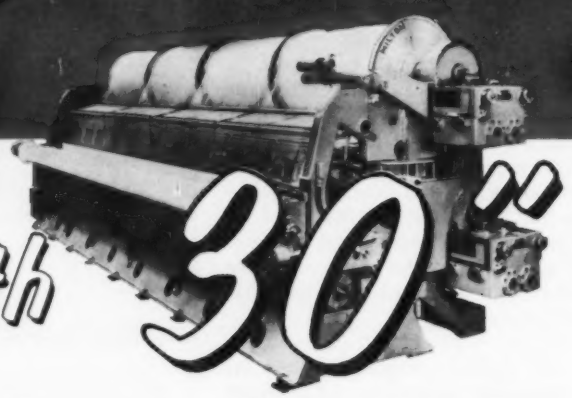
If the same concentrated follow-up had been given to the ar-

(Continued on page 143)

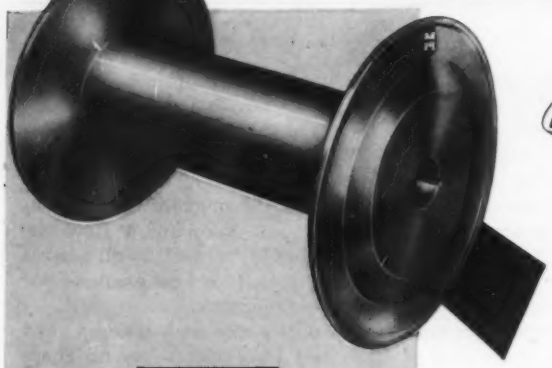
ON OUR 35th ANNIVERSARY . . .

Announcing ANOTHER MILTON FIRST!

ALUMINUM ALLOY TRICOT & RASCHEL BEAMS



with 30" diameter forged heads



HEADS

Forged, heat treated aluminum alloy. Designed for maximum strength and light weight. Thickness: 1¾" for nylon, 1¼" for other types of yarn. Bore of heads: 4½" or 6" diameter. Inside faces smoothly machined to 40 to 60 micro inch finish.

BARRELS

Extruded, heat treated aluminum alloy tubing. Nominal diameters: 12-inches for nylon service, 10-inches for acetate and other yarns.

CONSTRUCTION

Heads are secured to barrels by means of continuous automatic submerged-arc weld. Finish machining is done after welding, assuring a concentric, balanced, true-running beam, free of mechanical joints.

First with 13¾" then 21" and now 30" diameter FORGED HEADS for use with nylon, rubber, acetate or other yarns! Milton's new 30" beam will accommodate *twice the amount of yarn* now put on 21" diameter beams. Down time and threading-in operations are *cut in half!*

Milton was FIRST to offer the advantages of the greater strength and ductility of forged aluminum beam heads, as compared to those made from castings. Milton Beams of this type have been in service for more than ten years, and all of the experience and advantages are now incorporated in the new 30" diameter beam!

The new 30" Milton Beam has been subjected to extensive testing over a period of two years. The result is a strong, rugged product with a minimum of head deflection. Destruction tests have proven that it will withstand pressures far beyond the load imposed under normal operating conditions.

Your inquiries are invited . . .
write or phone for further information.
Milton sales engineers are at your service!

SEE THEM AT THE K. A. E. Booth 335

Thirty Years of Dependability in Yarn Beams

MILTON MACHINE WORKS, INC.

DESIGNERS • ENGINEERS • MANUFACTURERS

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The designer's place in the knitgoods field

by Richard Titelman
Vice-President
Puritan Sportswear Corp.

Exclusive

A DESIGNER is usually a sitting duck. Everything he does is on trial continuously from the moment he does it. From the first trial sample to the selling of the final line, a designer's creations are set up for all the world to see, to sell or not to sell, to be or not to be.

In order to get across to the casual reader the problem of a designer in pictorial form, we have phrased our little article below in terms of a court trial. First, however, we want to give you some rough definitions.

Styling or designing may roughly be defined as four or five months of continuous stress surrounded by an irritable colon at each end.

If this is in defiance of principles of anatomy, it might be remembered that psychological considerations in this field are paramount.

This long period of accumulated frustrations breaks itself down into several categories, which we shall examine later and at greater length:

1. How good are these ideas?
2. When do we have enough good ideas pumped into our line?
3. How soon will I be able to get all these ideas organized into a unified whole?
4. What's he know about it?
5. How will the salesmen react?
6. How will the line sell?

When you consider that this happens not once, but twice a year, small wonder that the public conception of the stylist is that he or she is a cross between a Metropolitan Opera diva and a prima ballerina about to shower her talents on an opening-night audience.

The creative world is a world where individuality is kingpin. Nevertheless, it is all tied in with the practical aspects of eating, sleeping, and just plain living, because all the products of the stylist are subjected to a continuing trial in the field—not only by intra-company people that have a chance to make their comments, but by salesmen, customers, and the ultimate consumer. Many hurdles have to be cleared before the housewife walks into a store and sees a particular commodity, gets a reaction to it, and either buys it or doesn't buy it.

In view of this, we will present the case of the designer from both angles.

How good are these ideas?

For the Prosecution: They are lousy!

For the Defense: They are good! They are mine! *I* know!

The first essential in the organization of a line is usually fabric. These are worked on at great length and a group of fabrics are achieved in keeping with the market trends. That is the base upon which the styling takes place.

The second phase should be styling itself—styling using the fabrics already developed.

The third phase will be colors. Here's where, in these three phases, intuitive art or instinctive designing is the most important.

When will we have enough ideas pumped into the line?

For the Prosecution: Our line is not complete enough.

For the Defense: Perhaps it isn't. We will add more.

A line cannot be endless, but perhaps a few things can be added. Here the designer can afford to be flexible. After all, more of his ideas are being called for.

How soon will all these ideas become organized?

For the Prosecution: You will be too late with this line. We need to open on March 15th.

For the Defense: Would you rather open early and incomplete or two weeks later with everything you need?

Somewhere in the course of gathering a line together, after a great number of ideas are gathered and laid on the table, merchandising considerations must take hold. The line has to become *more* than the sum of all its parts. It has to become a well-organized, hard-hitting merchandise group as such.

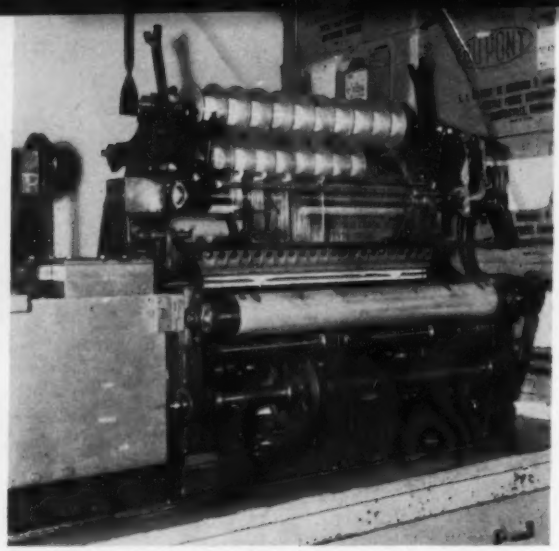
To draw an allusion here, it is somewhat like a classical composer who gathers three or four simple folk tunes and decides to create a symphony out of them. Whether this is an active or passive thing in the mind of the designer, or merchandiser, or both, is beside the point. It usually just happens.

What's HE know about it?

For the Prosecution: How on earth do you ever expect us to

(Continued on page 143)

Miniature warper makes samples, speeds pattern development.



Sample knitting machine cuts costs, saves time, labor, and materials.

FLEXIBILITY KEYSTONE

Staff prepared Exclusive

THIRTY-FIVE tricot machines are now consolidated under one roof in a plan designed to improve management and supervision of quality and cost factors at Dora Knitting Co., division of Dover Mills Co., Shelby, N. C. This plant produces tricot fabrics from 15 to 150 denier in all filament fibers for lingerie, outerwear, and other uses.

Progressive management is evident in this plant's operation as noted in constant improvements in production and product quality. This plant claims a first in the introduction of plaid tricot fabrics and has a widely diversified style range in both plain and fancy patterns.

All tricot machines presently in operation are of the two-bar type and are equipped with automatic let-off to assure better quality through uniform tension on the cloth. Emphasis is placed on flexibility and speed in making pattern changeovers.

A pilot warper and knitting machine are used to minimize sample costs, time, labor, and material required to develop patterns.

High speed warpers in production operate at 150-600 ypm, depending upon the type of yarn being run. Both horizontal and vertical type creels are used to provide handling of yarn on any kind of package.

Electronic stop motions are employed on the warpers, in addition to the yarn inspection device located between the accumulator and the creel. A roll applicator is used to apply antistatic oil to the yarn near the accumulator.

Cloth inspectors patrol the knitting machines 24 hours a day and do nothing else. Patrol personnel examine the cloth as it is made on the machines, which are all in one room. An ordinary

R. E. Duvall, superintendent, says patrols keep seconds at minimum.

She whistles while she works—patrols call needed help with whistle.

For flexibility, both horizontal and vertical warper creels are used.

Operators clean, wax beams, which are kept free of burrs and nicks.

OF TRICOT OPERATION

whistle is used to summon help when any machine needs attention for any reason.

There are three whistle signals: ONE whistle summons an operator for defects such as ends out, dragging ends, oil spots, broken filaments, and other common defects. The patrolman stops the offending machine, blows the whistle, then continues patrolling. The operator notes location of patrolman at time the whistle is blown.

TWO blasts on the whistle summon the utility man to adjust the machine for such troubles as broken needles or bent needles and guides; or to check quality, stitch uniformity, etc.

THREE blasts on the whistle indicate that the machine has racked a full piece and it is time for the operator and utility man to doff the cloth.

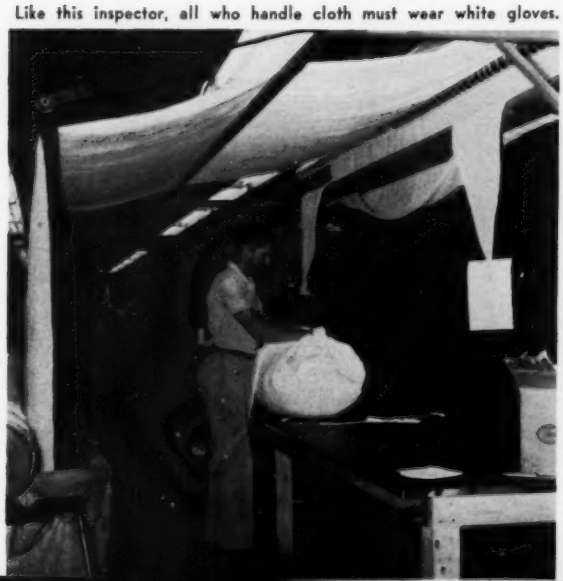
This system is most efficient and effective in conserving time and personnel, while fixing responsibility, upholding quality, eliminating delays, and extending machine operating time. Patrolling operations are continuous, and the over-all effect is to keep the machines running with minimum second quality production, according to R. E. Duvall, superintendent.

Seconds vary, but are limited to 1-2 per cent, thereby attesting to good machine efficiency tied to high quality standards. Machine efficiency is held to 90-93 per cent while seconds have frequently been held to the 0.33-0.57% level, ranging to 1%. The grading standards are on a level with accepted specifications among competing mills.

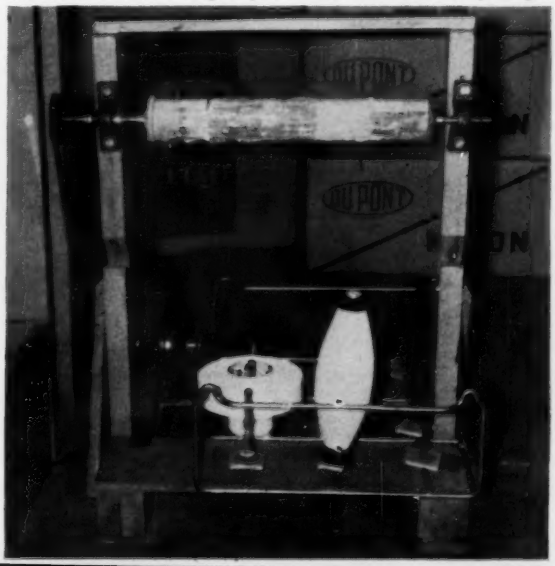
Inspections are performed by cloth graders at the grading and inspecting machine as a double check, and then the cloth is checked as it is packed.

Completely air conditioned and refrigerated, this modern plant spares nothing in attending to small details that make a big difference in the final product.

Like this inspector, all who handle cloth must wear white gloves.



Mill-made version of tangled yarn winder handles various packages.



Franklin Process COLORS

Their Quality is **LABORATORY CONTROLLED**

Consistent quality of Franklin Process Colors — as to accuracy of shade and softness of finish for knitting — is no accident. That's because formulas are established in our laboratory before the yarn goes to the dye house. Once established, a shade can be duplicated without guess work. Re-processing is cut to a minimum and the original quality of your yarn is preserved.

Each one of our dye houses has a completely equipped modern laboratory, including a battery of sample dyeing machines. Thus new formulas are quickly determined and delivery is expedited. In addition to these laboratory facilities, the application laboratory in Philadelphia, shown on the opposite page, does research work on new dyes and fibers for all four plants.

This is only one of many reasons why Franklin Process Yarn Dyeing Service enjoys an enviable reputation. Other reasons are as follows:—

- **FRANKLIN SPRING.** This spring permits harder packages to be compressed less and softer packages to be compressed more into a column of uniform density. Uniform penetration of the dye liquor and uniform shades result.
- **LARGE DYE BATCHES.** If you need long runs of one shade, we can supply that shade in ONE DYE BATCH— up to 2500 lbs. in size. You don't have to contend with mixed dye batches.
- **MULTIPLE DYEING MACHINES.** With 14 different sizes of dyeing machines, we can fit the machine to the poundage of yarn required. The proper ratio of dye liquor to yarn is maintained. The chances of offshade work are minimized.
- **UNEQUALLED EXPERIENCE.** There is no substitute for experience in yarn dyeing. We have unequalled experience. In 48 years we have dyed more than 700 million lbs. of yarn, for practically every branch of the textile industry.
- **CONVENIENTLY YOURS** — that's Franklin Process Service. It's available from 4 plants in 4 convenient areas. Get in touch with our nearest plant or office. Get the best in service and known quality— quality you can talk about.

Franklin Process

A DIVISION OF INDIAN HEAD MILLS, INC.

Dyers of cotton (carded, combed, mercerized) • Orlon* (yarn and tow) • Acrilan • Dacron† • Ban-Lon® • Helanca • Spun Nylon Spun Rayon • Blends • Wool & Worsted Yarn—all yarns on Franklin compressible spring exclusively.

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*Trademark for Dupont's acrylic fibre.
†Trademark for Dupont's polyester fibre.

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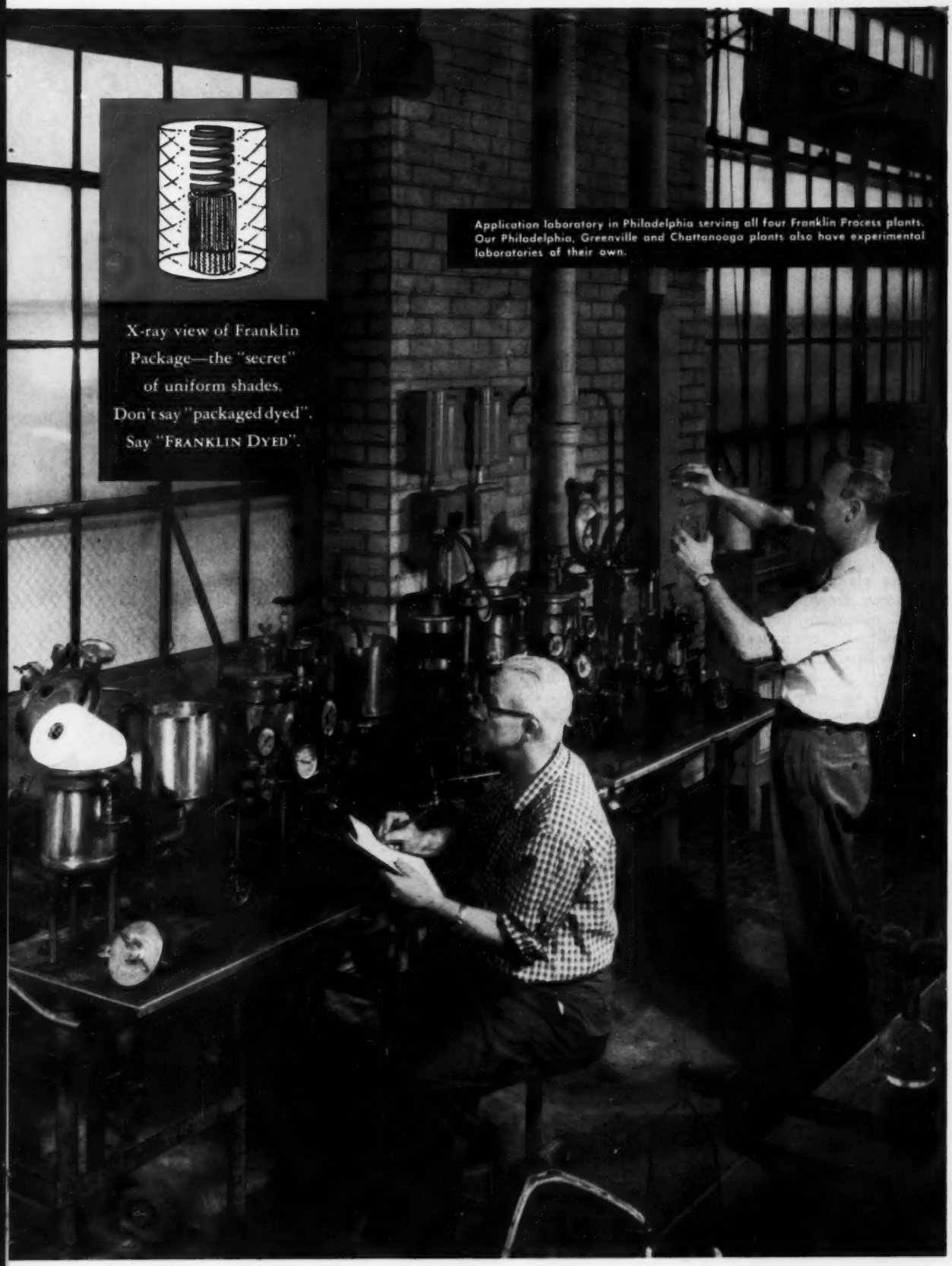


X-ray view of Franklin Package—the "secret" of uniform shades. Don't say "packaged dyed". Say "FRANKLIN DYED".

Application laboratory in Philadelphia serving all four Franklin Process plants. Our Philadelphia, Greenville and Chattanooga plants also have experimental laboratories of their own.

DEVELOPMENT is part of PRODUCTION

at Shelton's diversified hosiery plant

Staff prepared Exclusive

DURING more than thirty years of operation, Shelton Hosiery Mills, Inc., Shelton, Conn., has chosen to remain a small but highly diversified knitting and finishing plant. While there has been some growth, with expansion of manufacturing area, the company has concentrated instead on bringing along new developments. It is interesting to note that of some 45 styles of hosiery which make up the current Shelton line, only one style, a men's wool rib sock, was listed as a production item five years ago.

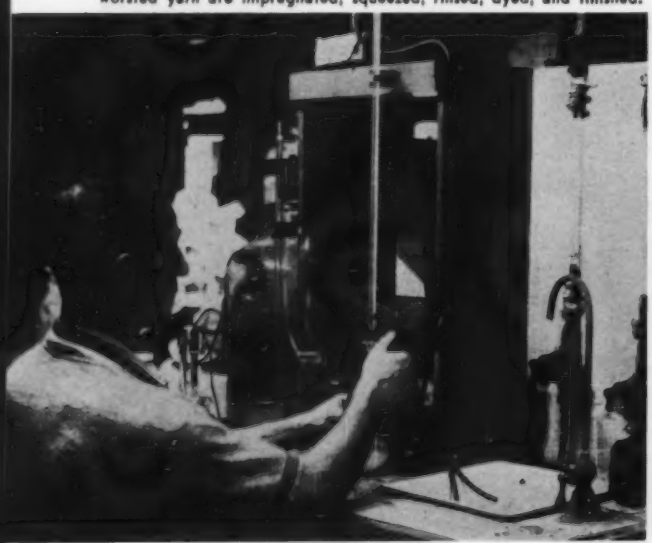
Besides a line of men's Komet ribs, Shelton today is producing a diversified line of girls' knee-high socks, and girls' and men's anklets in which wool, cotton, stretch nylon, high-bulk Orlon, and various blends of these are used.

Actually, no development program as such exists. The development work, which in part embraces styling, is carried on informally by company executives, who have immediate responsibilities in knitting, dyeing, and finishing. Yet the extent of this work is large, for at any given time as many as 35 experimental yarns await evaluation.

Development work, however, is rarely undertaken without a clear objective in mind—the particular hosiery under development must fall within a specified price range, and must be either a new item or an improved variation of an existing one.

Ideas for new developments come about largely from a knowledge of existing markets and consumer preferences, along with accurate forecast of future trends. New pattern ideas, styles, and textures can originate with Shelton's New York sales agents, who are abreast of consumer preferences and trends; or they may stem from an obvious need to improve certain properties of an existing item.

Preshrinking wool by the Kroy process requires careful control of pH and strength of the treating chemicals. Here, Alex DeMarco, who is in charge of dyeing and finishing, makes a titration. Socks of worsted yarn are impregnated, squeezed, rinsed, dyed, and finished.



Rotary dyeing machines are Shelton's largest production units, where hosiery is dyed and finished according to techniques worked out on experimental lots. Cotton hosiery is dyed with selected soluble vats—less troublesome to apply on these machines than regular vats.

Shelton Hosiery's diversified production can reach 5500 dozen pairs a week during a peak season. Of the 45 styles in the current line, only one was a production item five years ago—indicating the large role played by development work in the company's progress.

After knitting, looping, and inspecting, the hosiery is turned right-side-out, and then is bundled for dyeing and finishing. In the wet processing operations, routes vary according to fiber type, yarn type, and the effects which are desired in the finished product.

It is to be expected that many developments will not meet with market acceptance. What the company relies on is the very small percentage of "hits" which bring in new business and create capital for further experimentation.

One development project which paid off for Shelton was the utilization of Orlon in girls' anklet socks. The project went on intermittently for about six years, until the desired results were achieved and the particular styling afforded by high-bulk yarns was accepted by the public. This work has led to a number of other variations in finishes and textures which are now ready for introduction when present styles have run their course.

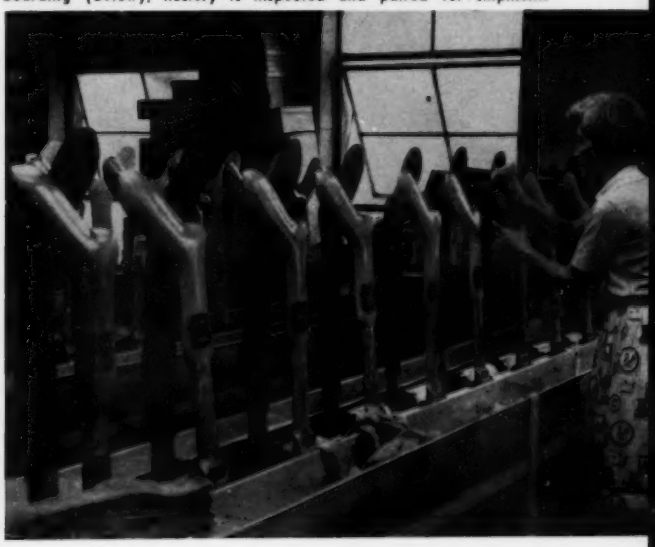
TO DEVELOP an item which must sell within a specified price range, and must possess certain properties as well, the proper fiber, yarn type, and yarn size must be selected. Then, after the proper stitch has been decided upon, adjustments and settings on the knitting machine, including proper tension, must be established. Lastly, dyeing and finishing procedures, including color lines, must be developed.

Needless to say, in developing a sock or hose there are instances

(Continued on page 144)

After dyeing and finishing, the hosiery is extracted. Small rotary dyeing machine is seen in background here. Socks dyed in the paddle machine have a different hand from those dyed in the rotary machine because of the difference in the movement of the load.

After extraction, the load is tumble-dried to a low moisture content. Tumble drying also serves to improve hand of certain socks, particularly those of lamb's wool and Orlon yarns. After finish boarding (below), hosiery is inspected and paired for shipment.



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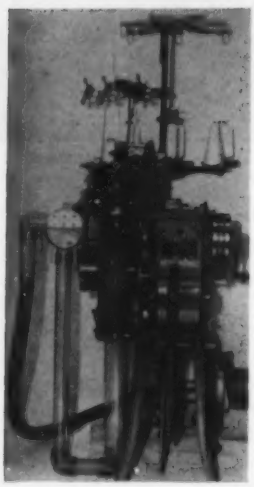
See it at the Knitting Show — Atlantic City — May 4-8

Makes 6 dozen pairs of ladies' hose in 24 hours



Unusually uniform fabric with no "cat's eyes" is produced on an improved version of the Carolina Model K2F, two-feed, 400-needle seamless hose knitter (Series 15). Mills report that with this machine they are producing an average of six dozen pairs per 24 hours, with first quality running over 95%, and they are using less than one needle for 3.9 dozen pairs.

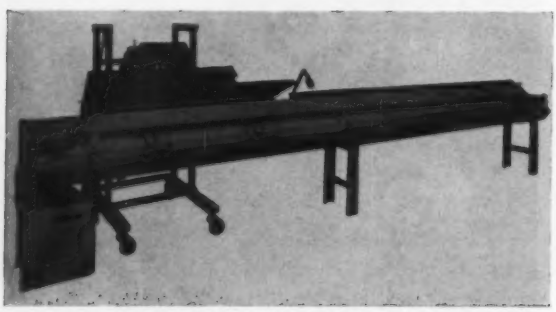
The new machine includes a simplified camming arrangement and an even more positive yarn binder, and yarn release tension. A new slowdown attachment keeps the cylinder operating at very slow speed during changeover from straight knitting to reciprocating motions.

Various types of take-up attachments may be applied with little or no alteration to the basic machine.

Morris Speizman Co., 508 W. 5th St., Charlotte, N. C.

Do you want more data? Write ◂ or use card on page 189; list D-101

Automatically bales and seals a dozen undergarments



The Amscomatic 100 Baling Conveyor/Sealer is used in the knitgoods manufacturing industry for packaging of bales of up to 12 individually wrapped undergarments in flexible film bags. The unit automatically makes a tight-to-product bead/edge seal that is neat and strong (waste chip is automatically trimmed and disposed of).

For an undergarment manufacturer who is now using cartons for his dozen-packs, the advantages are: (1) a big saving in material costs through the use of flexible packaging instead of cartons; (2) 7 per cent lower shipping cost since the bags are not as heavy as cartons; (3) considerably less space is required for storage of the bags.

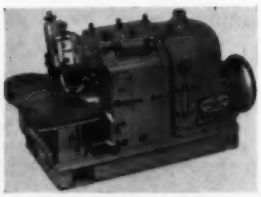
For an undergarment producer who is already using flexible packaging for baling, the machine offers these advantages: (1) No operator is required for the sealing operation—machine will seal the output of up to four loading operators; (2) baling seal is completely separated from the inner bags.

Operators at the loading stations place the filled bale onto the conveyor, simply by continuing the same motion used to load the bag. The conveyor straightens the package and automatically delivers it to and through the sealer unit. Conveyor is available in various lengths to handle the output of one, two, three, four, or more loading operators, depending upon the requirements of the mill.

Amsco Packaging Machinery Inc., 31-31 48th Ave., Long Island City 1, N. Y.

Do you want more data? Write ◂ or use card on page 189; list D-102

Circular hosiery toe seamer cuts costs, ups quality



The looping operation may be eliminated on a wide variety of circular knit hosiery by using the Merrow Style M-4D-45 hosiery toe closing machine. Improved quality, fewer seconds, reduced operating costs, and lower investment in equipment are the advantages offered by the machine which is being used not only in mills producing hosiery with the "Getaz" gusset panel loopless toe but also in plants where other designed knitting constructions are made.

The machine is a two-needle, three-thread, overstitching machine designed to produce a maximum of 100 stitches per inch. The machine trims the material directly prior to the overseaming operation.

The Merrow Machine Co., 28 Laurel St., Hartford, Conn.

Do you want more data? Write ◂ or use card on page 189; list D-103

Ball burst attachment for testing knitted fabrics

A special extended (3" thrust) Ball Burst Attachment for making ASTM-recognized tests of high-elongation constructions may be used on the Scott "CRE" constant-rate-of-extension tensile tester and the Scott IP-4 Seri-

graph machine.

With the ball burst fixture and A-7 clamps on the Serigraph, two tests may be made on completed elastic fabric: the ciamps permit evaluation of the stretch in either direction, while the ball burst provides evaluation through biaxial elongation. This machine evaluates knitted fabrics for hysteresis and recovery, as well as elongation and ultimate tensile strength.

Scott Testers, Inc., Box 963, Providence, R. I.

Do you want more data? Write ◂ or use card on page 189; list D-104

170" tricot knitter is quiet at 950 courses/min

The 170"-wide "Excentra" tricot knitting machine, complete description of which appeared in the March, 1959, issue of TEXTILE INDUSTRIES (p. 147), will be on display at the Knitting Arts Exhibition. It makes jersey fabrics at a sustained speed of 950 stitches per minute and permits unlimited pattern possibilities with the entire range of yarns used for tricot knitting.

Robert Reiner, Inc., 556 Gregory Ave., Weehawken, N. J.

Do you want more data? Write ◂ or use card on page 189; list D-105

Lets one operator finish 140 dozen hose in 8 hours

All four of the ladies' hosiery finishing operations—preboarding, dyeing, postboarding, and drying—are done in one processing cycle on the new Turbo Dye Boarder. Stockings go directly from the grey goods examiner to the finishing machine and from there to the pairer. Production is approximately 140 dozen per eight-hour shift with one operator.

The complete processing cycle requires approximately 8½ minutes, giving the operator ample time to strip and fill the 60 boards.

The operator pushes the starting button to let the boards enter the retort. He starts stripping the front row of boards and ends with the back row. He then starts boarding the back row of boards and finishes with the front row. Steam is admitted upon closing of the door. Dye circulation starts at the same time. Dyeing timer goes into action, for approximately two minutes, after predetermined dyeing temperature has been reached.

Setting timer takes over and controls setting temperature. Rinse timer takes over for five seconds of rinse, while drain valves open. Blower poppet valves open at zero pressure. Drying timer starts blower for a period of heated air drying. Door opens and cycle is completed.

Turbo Machine Co., Lansdale, Pa.

Do you want more data? Write ◂ or use card on page 189; list D-106

How to make invisible seams on F-F hosiery

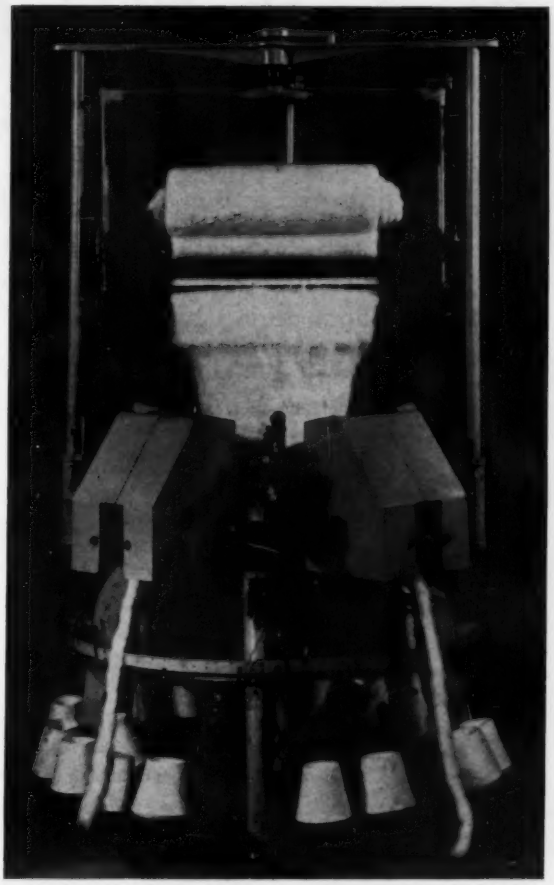
With parts recently made available, Singer 242-2 hosiery seamers may be modified to close ladies' full-fashioned hosiery with an almost invisible seam. The process has been patented by Chadbourn-Gotham, Inc., Charlotte, N. C.

Included in the set of parts are: front and back chaining fingers, fabric guide, needle guide, eyelet, and uncurling guide. Fitted with these, the seamer produces a soft, flat, closing stitch with minimum seam bulk.

Singer Sewing Machine Co., Manufacturing Trade Dept., 149 Broadway, New York 6, N. Y.

Do you want more data? Write ◂ or use card on page 189; list D-107

Spring needle machine for high pile fabrics



A new knitting machine for making high pile fabrics is available. Called the Tompkins S-1-Jr. spring needle knitting machine, it is equipped with four cards and four feeds as shown in the accompanying illustration.

Tompkins Bros. Co., Inc., 623 Oneida St., Syracuse, N. Y.

Do you want more data? Write ◂ or use card on page 189; list D-108

WARNING!

ALL THAT GLITTERS IS NOT METLON!

Even though identical ingredients go into most metallic yarns...there can be a vast difference in the way metallic yarns perform. Some metallics are simply not made as well as others...and if the difference doesn't show up during manufacturing processes, it's bound to come to light during consumer use.

Make sure that the metallics you use will live up to their glittering promises. Specify quality-proven Metlon.

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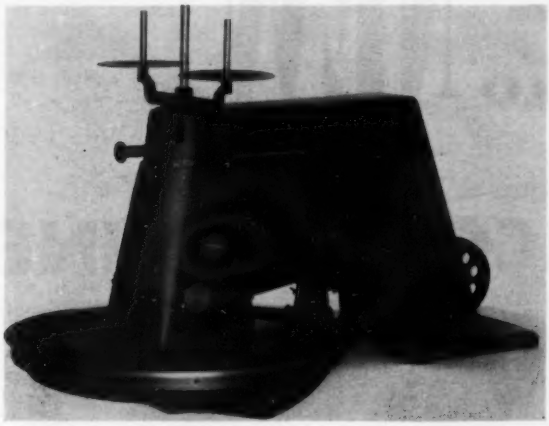
with MYLAR*
METALLIC YARNS

For samples and specific information about Metlon Metallic Yarns, write to:
THE METLON CORPORATION, 432 Fourth Avenue, New York 16, N. Y.
A Subsidiary of Acme Backing Corporation *DuPont's Registered Trademark for its Polyester film

★ NEW FOR KNITTING—See it in Atlantic City ★



Locate this looper's sewing unit any place on dial

A new looper for putting necks on sweaters, inserting sleeves of sweaters, turning welts on surgical stockings, putting cuffs on gloves, etc., is designated the "Style-master."

Following are the advantages to be derived by using the machine:

1. Sewing mechanism can be located at any place on the dial;
2. Stainless steel points are mounted at an upper angle for convenience of the operator;
3. It can be mounted on either a pedestal or table;
4. It has a turnback attachment which allows the dial to be turned from point to point;
5. It does not require lubrication, operates at extremely high speed;
6. Electric stop motions and foot treadle;
7. Ease of maintenance and changeover.

The machine produces either a single- or a two-thread chain stitch to duplicate hand finishing on sweaters.

Southern Textile Machinery Co., P. O. Box 1015, Paducah, Ky.

Do you want more data? Write ◂ or use card on page 189; list D-109

Seamless hose tester simplifies quality control

Precise measurement of the foot size, leg length, and width of the entire seamless stocking in a single operation is an outstanding feature of the recently developed "Volumet" seamless hosiery testing machine. (A similar unit for testing full-fashioned hosiery was announced in TI for April, 1957). Measurement of the individual stocking parts in conjunction with the graph-like test records permit more accurate machine adjustment and consistently better results in maintaining uniformity.

Easily adapted to test any size stocking from 8 to 12 by simply changing the size sleeves, this seamless hosiery testing machine is portable. The foot assembly is equipped with a built-in toe locking device, enabling an operator to test unlooped stockings directly at 34 machines in 30 minutes. At the same time the operator can record the results on a report card and, when necessary, adjust as many as 10 of the knitting machines.

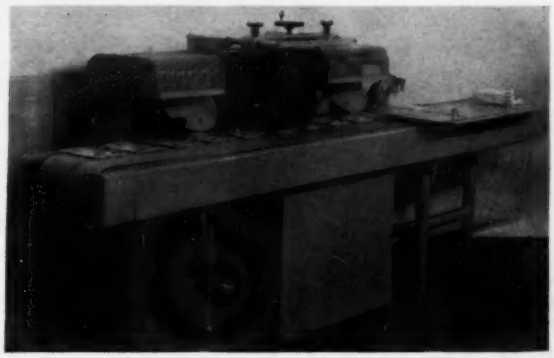
Allowing time for checking a number of machines a second time, and for transporting the tester to the knitting machines, an operator can maintain good control over as many as 400 machines in an eight-hour day.

For mills that have fewer than 18 full-fashioned machines and not more than 150 seamless machines the "Combination Volumet" is available. It can be converted from testing full-fashioned stockings to seamless in 30 seconds.

Cocker Machine & Foundry Co., P. O. Box 431, Gastonia, N. C.

Do you want more data? Write ◂ or use card on page 189; list D-110

Labels and seals 60 polyethylene packages a minute



The Carbert Model 1010 high-speed polyethylene bag sealer seals, trims, and labels knitwear at the rate of 60 packages per minute, automatically performing as much work as four operators doing the job by hand.

Other advantages of the machine are: (1) a tight contour package is produced; (2) only a few minutes are required to change the machine from one package size to another; (3) with labeling attachment this unit will preprint and apply a label to each package as it passes through the machine, eliminating the need for an operator to do this and the necessity for maintaining large stocks of printed labels.

Operators who are placing knitwear in bags drop the bagged item on flat or tilted conveyor belt. Item is held in sealing position and is carried across sealing wire where seal is made and excess is carried away.

Carbert Mfg. Co., Inc., Div. Pneumatic Scale Corp., Ltd., 143 Sidney St., Cambridge, Mass.

Do you want more data? Write ◂ or use card on page 189; list D-111

D-c motors smoothly accelerated to preset speed

Wide speed range (up to 100 to 1), finger tip control, and smooth, automatic acceleration to a preset speed with low kva inrush are advantages to be derived from "Mot-O-Trol," an electronic control and power supply for adjustable speed drives.

The apparatus, which is offered in ratings from ⅛ to 150 hp, operates and controls d-c motors from a-c power. Thyratron or phanotron tube reactifiers are used to supply the armature and field power. The unit also includes the control which may provide reversing, dynamic

REINER offers... NEW 170" TRICOT MACHINE

Operating at Constant, Mill-Proved Speeds of 950 Courses/Min.

This EXCENTRA tricot knitter permits unlimited pattern possibilities with entire range of all commercially used tricot yarns (15 denier monofilament Nylon — 40 denier unthrown Nylon — all thrown Nylons — Dacron — Acetate — Viscose, etc.).

Sustained mill-proved speeds of 950 courses per minute on Jersey tricot fabrics.

Machine noise is reduced to a minimum by crank lever power transmission, one-piece frame and improved precision fitting of other moving parts.

Machine is suitable for beam flange diameters from 14" to 30". The unobstructed yarn path is laid out on 42" centers to permit use of larger commercially available warps.

All control instruments such as take-up, let-off, production counter, speed indicator, etc. are grouped compactly at the pattern wheel end of machine.

The EXCENTRA also features as standard equipment — Quick stop mechanism — adjustable speed 3-phase motor — automatic yarn control signal system — speed indicator — total production counter — 3 shift stitch counter.

FEATURES:

- Vibration-free, single-unit welded steel frame, completely distortion-free.
- Knitting motion actuated by eccentrics and crank levers. No cams, cam rollers or counter cams.
- Knitting elements externally adjustable—for maximum convenience.
- Positive cloth take-up for all commercial tricot qualities and yields.
- Automatic power-driven let-off with indicator lamps for accurate yarn control. Tuck stitch control device supplied on request.
- Automatic lubrication throughout — simplified maintenance.
- Chain link or pattern wheel drive.

SEE THE NEW EXCENTRA AT REINER BOOTHS Nos. 369-370-371 — KNITTING ARTS EXHIBITION, Atlantic City, New Jersey, May 4-8, 1959

ROBERT REINER, INCORPORATED

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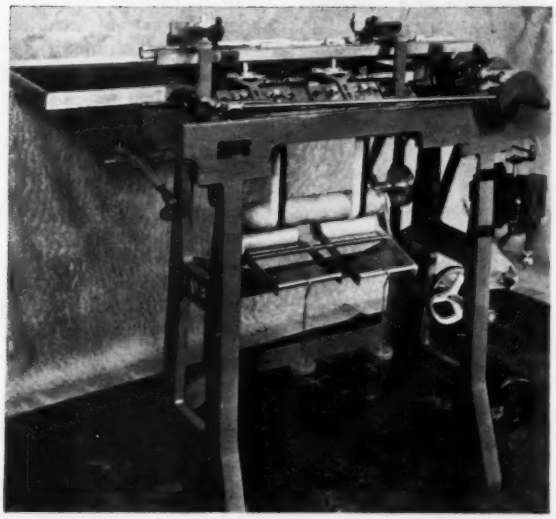
An Honored Name in Textile Machines Since 1903

braking, overload protection, and low voltage protection. Line starters or field rheostats are not required.

Westinghouse Electric Corp., 700 Braddock Ave., East Pittsburgh, Pa.

Do you want more data? Write ☁ or use card on page 189; list D-112

Trim machine can knit two colors per course



The Model VS100 double head narrow fabric flat knitting machine is designed for producing vertical-stripe true rib-knit border fabrics with no welt or tuck to hide the opposite colors. This enables the machine to knit the two colors on every course, thus providing maximum production and a solid-color stripe.

For regular solid color trim the machine will produce two individual borders on each head with selvage on both sides of each border, eliminating the cost of slitting the conventional double-knit border.

Approximate production is 250 to 300 yards per eight-hour shift. In addition to the rib stitch, the machine will knit the conventional half-cardigan or full-cardigan stitches, with or without rack.

The unit has a high bridge, two-bar arrangement with four yarn carriers (two on each head). The new individual control plunger system yarn carriers, with positive stoppers, can be adjusted to stop the specially designed yarn carrier at any desired point, including a space as small as the distance between two needles.

Lamb Knitting Machine Corp., 8 Montgomery St., Chicopee Falls, Mass.

Do you want more data? Write ☁ or use card on page 189; list D-113

New ideas in flexible packaging

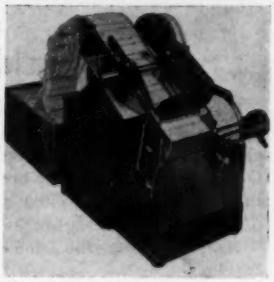
Features of a new polyethylene bag for multiple or baler-type packaging of hosiery, sweaters, undergarments, etc., are: (1) the gusset bottom and gusset top provide a neat, squared-up appearance; (2) the "Flip-Close" feature provides easy access to the product without harm to the package; (3) clarity of the film from which the package is made facilitates inventory taking.

Also available is a polyethylene rack bag for packaging of gloves, ladies' hosiery, face cloths, dish towels, etc. The hole at the top permits the package to be hung on display racks, sales message is printed directly on the film, and the clear film affords visibility of the merchandise.

Bemis Bro. Bag Co., Plastic Package Plant, P. O. Box 905, Terre Haute, Ind.

Do you want more data? Write ☁ or use card on page 189; list D-114

Easy way to print variable copy on tags and labels



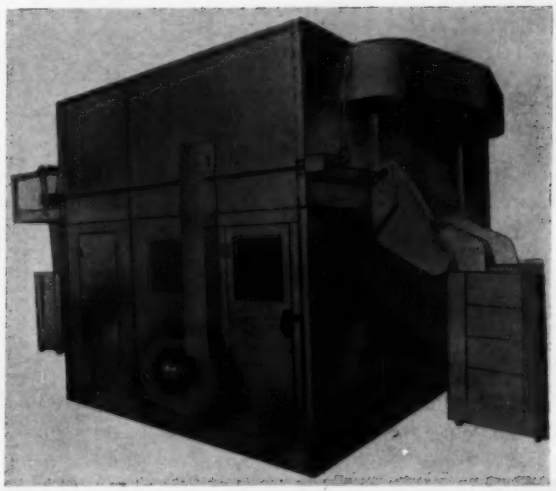
The Dennison Dial-Set Imprinter offers a simple method for printing variable copy (size, color, lot number, etc.) on a wide range of tags, tickets, and labels used for product identification, production control, piece-rate ticketing, and premarking.

Variable copy, alphabetic or numeric, is rapidly set by means of a dial. The machine then imprints this copy on preprinted tickets at a speed of 165 tickets per minute.

Dennison Mfg. Co., Machine Systems Div., Framingham, Mass.

Do you want more data? Write ☁ or use card on page 189; list D-115

Knitgoods dryer offers improved shrinkage and hand



The "Reelax-Jet" dryer for knitgoods employs a principle of overfeeding fabric into a drying chamber in a manner that permits complete freedom of the cloth to shrink while it is being dried. Air currents in the machine are controlled in a manner that creates a flutter-

★ NEW FOR KNITTING—See it in Atlantic City ★

ing action of the cloth while it is transported through the machine. This fluttering or agitation of the material further increases its tendency to shrink and relax throughout the drying cycle. The result is that fabric not only is handled in a completely uniform manner, but improved shrinkage results are obtained and cloth is delivered with a much softer and loftier hand.

A feature of the dryer is the prefabricated type of construction that permits simple, rapid, and economical installation. Any number of sections can be added at any time to the operating unit, thereby increasing production.

Tubular Textile Machinery Corp., 33-61 54th St., Woodside, L. I., N. Y.

Do you want more data? Write ◂ or use card on page 189; list D-116

Aids for ladies' seamless hose knitting

Two new products for use on 400- and 474-needle machines are available. "Stat-Ease" needle oil helps to eliminate static in the needles, also in the yarn. "Stat-O-Lene" yarn lubricant breaks static in nylon yarn, aids in the production of clear stitches, and allows free draw-off in the plastic tubes.

H. C. Harding, Inc., 2nd & Tilghman Sts., Philadelphia 22, Pa.

Do you want more data? Write ◂ or use card on page 189; list D-117

Adjustable drive eliminates motor-generator set

The Westinghouse AVR Reactifier Drive (described in TEXTILE INDUSTRIES for March, 1959, p. 149) will be displayed for the first time at the Knitting Arts Exhibition. Use of this package drive wherever adjustable speed drives are required (warpers, etc.) eliminates the need for motor-generator sets, thereby reducing maintenance costs.

Westinghouse Electric Corp., 700 Braddock Ave., East Pittsburgh, Pa.

Do you want more data? Write ◂ or use card on page 189; list D-118

Sweaters automatically framed and finished

A new fully automatic steam table with sizing attachment for sweater framing and finishing offers these advantages:

(1) Automatic cycle permits operator to handle two or

"H-W" conditioner

The completely automatic conditioner

Twist Setting

for cotton, woolen, worsted, silk and synthetic yarn, nylon hosiery

Regain

Lofting

Pre-Setting

You are cordially invited to inspect our latest model conditioner at Booths 151 and 152, Knitting Arts Exhibition.

"H-W" Conditioner for Cotton Knitting Yarn

THE INDUSTRIAL DRYER CORPORATION

STAMFORD, CONNECTICUT

SALES REPRESENTATIVES IN KEY TEXTILE AREAS

more steam tables.

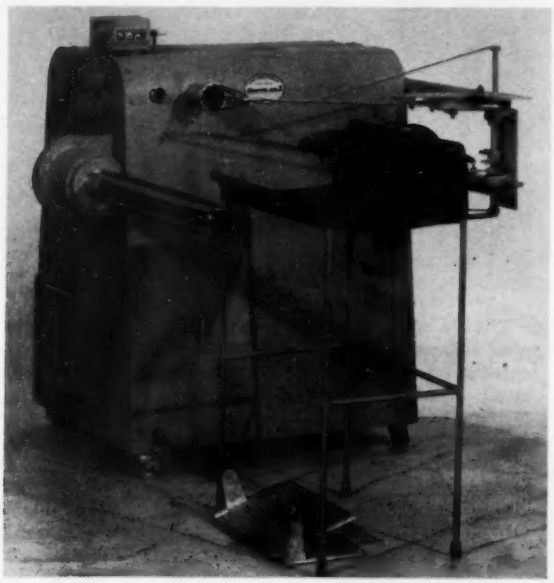
(2) Uniform quality control and increased production.

Pneumatic or electric time control is available. Control box is equipped with pushbuttons to start automatic cycle.

New York Pressing Machinery Corp., 880 Broadway, New York 3, N. Y.

Do you want more data? Write ◂ or use card on page 189; list D-119

How to examine, turn, stack half hose at lower cost



An automatic machine for examining, inspecting, turning, and stacking all types of half hose lowers the cost of these operations.

Called the "Marvel-StaX" it offers the following advantages: (1) built-in air compressor provides air needed for operation; (2) adaptable for bagging as well as stacking; (3) 100 per cent quality inspection; (4) automatic turning before or after inspection; (5) automatically removes lint and loose threads; (6) compact and easily moved about; (7) permits 50 per cent reduction in inspecting personnel; (8) cuts learner costs; (9) forms custom made for mill requirements.

Half hose are pulled onto the revolving examining form. After they have been inspected they are automatically turned through the tube, then counted and stacked in dozens for tying.

Marvel Specialty Co., 28th & Adams Streets, Paducah, Ky.

Do you want more data? Write ◂ or use card on page 189; list D-120

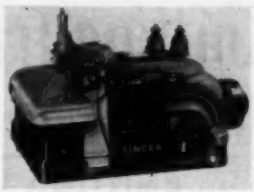
Pleating machine for man-made fiber fabrics

Permanent pleating of nylon and other man-made fiber fabrics at a high production rate is accomplished with a new pleating machine. Work is of higher quality because of increased pressure and heat and accurate control of both. Operation of the machine is fully automatic.

Chandler Machine Co., Ayer, Mass.

Do you want more data? Write ◂ or use card on page 189; list D-121

For high production seaming of loopless-toe hose



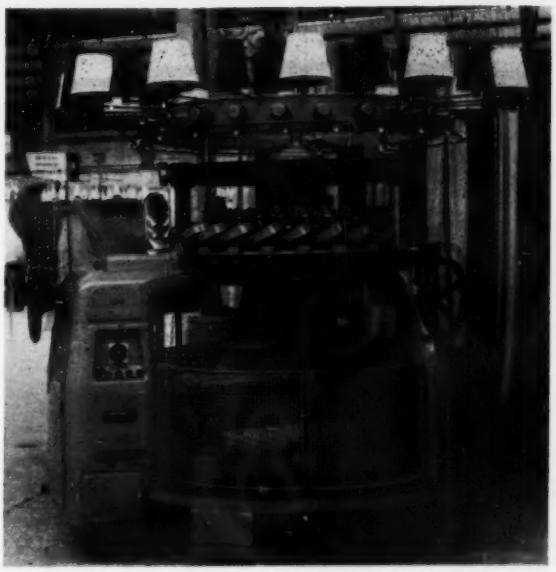
The new Singer 246SV12 overedging machine is a three-thread, two-needle machine particularly suited to closing loopless-toe hosiery produced under the "Getaz" process. Producing a modified Type 502 stitch, this high-speed (up to 5,000 stitches per minute) machine makes a soft, flat butted seam which starts under the toe and continues back toward the arch. The single, short stitched seam cannot be felt by the wearer or seen when stocking is being worn with open toe shoes or sandals.

Neat, uniform stitching for high quality work and light feed pressure which prevents damage to the most delicate materials are other advantages of the machine.

Singer Sewing Machine Co., 149 Broadway, New York 6, N. Y.

Do you want more data? Write ◂ or use card on page 189; list D-122

Fancy outerwear knitter offers constant yarn tension



The Morat circular Jacquard knitting machine for production of outerwear and upholstery fabrics features constant yarn tension and even feed, automatic let-off adjustment, and rapidly changeable pattern wheels and pattern settings.

Many patterns may be produced on the 30", 24 system,

in one week... under one roof

at the

"World's Largest Knitting Trade Show"

Sponsored by the 3 Great Divisions of the Knitting Industry
Nat'l Ass'n of Hosiery Mfrs.
Nat'l Knitted Outerwear Ass'n
The Underwear Institute

you'll see...

- All the newest circular, flat, tricot, raschel knitting machines *in actual operation.*
- All the newest technical developments in sewing, cutting, winding, dyeing, finishing equipment—*in actual operation.*
- All the experts in the knitting supply field—ready to show you how to produce *more goods . . . more efficiently . . . more profitably.*
- All the new yarns, fabrics, mill supplies, labor-saving aids.
- All the newest selling and packaging ideas, management "helps".

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COMPANY _____
ADDRESS _____
TYPE OF BUSINESS _____

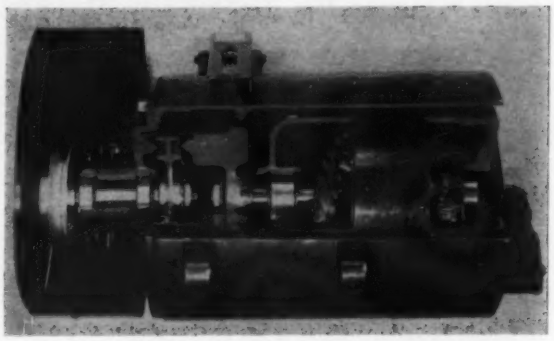
See it in Atlantic City ★

16.7 gauge machine: two, three, and four-color Jacquard, blister stitch, relief, birds-eye, cardigan, weave-knit, etc., and many combinations of these.

Ernest L. Frankl Associates, 515 Madison Ave., New York 22, N. Y.

Do you want more data? Write ◂ or use card on page 189; list D-123

No dust or lint enters this sewing machine drive



The TE clutch motor drive is a totally-enclosed clutch plus separate totally-enclosed motor, both further encased in an aluminum unicast housing to make a compact, easily-installed, sewing machine unit. Enclosure in this fashion keeps out dust and lint, reduces maintenance time and expense, and also eliminates motor burn-out which often occurs when dirt and lint accumulate at the clutch end.

The clutch, like the motor unit, can be independently removed. A special clutch and brake lining material insures quiet operation and longer life.

Other features of the drive are: (1) simple, easy clutch adjustment; (2) the aluminum unicast housing is specially designed to facilitate a constant flow of cooling air from the flywheel throughout the entire unit and to serve as an aligning member for the independent removal of motor and clutch; (3) the dual taper clutch and reversible clutch disc insure instant, positive stops and starts and save minutes of valuable production time; (4) oversize bearings are permanently lubricated and sealed to prevent oil and grease leaks and eliminate motor lubrication for the life of the drive.

The American Safety Table Co., Inc., Reading, Pa.

Do you want more data? Write ◂ or use card on page 189; list D-124

Rotary dyeing machine features low maintenance cost

All internal gearing and internal bearings have been eliminated in the new Venengo rotary dyeing machine Model 100 RD 59, which was designed to insure years of maintenance-free operation. The cylinder rotates on heavy duty ball-bearing pillow blocks mounted outside of the tank. Stuffing boxes at either end of the tank, packed with Teflon, prevent leakage around the shaft. All parts coming in contact with dye liquor are of Type 304 stainless steel.

Steam connections are made at the end of the tank. Newly designed drive consists of right angle gear motors

★ NEW FOR KNITTING—See it in Atlantic City ★

fastened to the cylinder shaft. Reversing mechanism is electrically controlled with reversing cycle easily adjustable from 0 to 30 minutes.

Venango Engineering Co., 8311 Torresdale Ave., Philadelphia 26, Pa.

Do you want more data? Write ◂ or use card on page 189; list D-125

Machine automatically collects time study data

A device that attaches directly to sewing machines (or any production machine on which running time can be measured) may be used to make time and production studies at the machine. It automatically provides a detailed, accurate, permanent, graphic record of the sequence of operations on the machine being studied.

Called the "Record Timer," the appartus also provides actual sewing and idle time and gives a distribution pattern of sewing that can be easily analyzed to determine the individual elements of each operation.

Clinton Industries, Inc., 156 Hudson St., Hackensack, N. J.

Do you want more data? Write ◂ or use card on page 189; list D-126

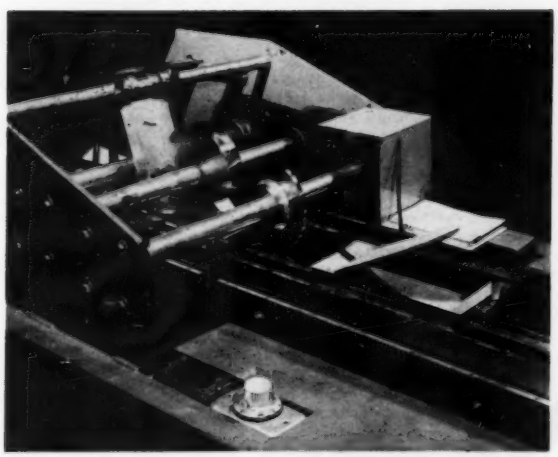
30" beam holds twice as much yarn as 21" beam

Now available for use on tricot and raschel knitting machines is a 30" diameter forged head beam that provides a capacity double that of 21" beams. Strength of the beam is ample to accommodate nylon yarns.

Hayes Industries, Inc., 437 Fern Ave., Jackson, Mich.

Do you want more data? Write ◂ or use card on page 189; list D-127

Faster way to package soft goods in display cartons



Faster packaging of soft goods items in folding cartons and reduction of labor costs are benefits to be derived by using a recently announced machine for loading and automatically sealing paperboard display packages.

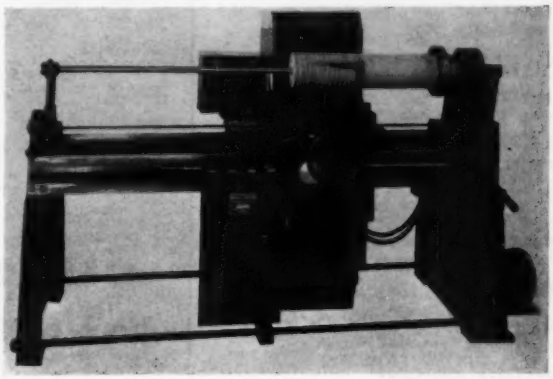
With this machine, which may be used with half hose, ladies' hosiery, lingerie and underwear items, etc., two or three operatives are able to turn out the same number of sock packages which would otherwise require ten to twelve operatives in hand packaging operations. In packaging socks the machine operates at a normal speed of 50 to 60 package units per minute.

A hopper at the feed end of the machine is loaded with printed carton blanks which are automatically fed into the machine at spaced intervals. The blanks are carried along a conveyor past two operators who place the goods on the blanks. The blanks then continue past a glue applicator and into a mechanism which tucks in both ends of the carton and folds over the two sides to form a closed package.

Lassiter Corp., 1143 E. 4th St., Charlotte, N. C.

Do you want more data? Write ◂ or use card on page 189; list D-128

Single-knife cloth cutter is completely automatic



Fast, accurate cutting of fabrics is provided by the completely automatic "Robomatic 312" single-knife cutting machine which is equipped with a chuck that prevents the chuck end-cuts from telescoping.

Some other features of the machine are: (1) push-button control; (2) four motors—one each for the knife, grindstone, roll rotation, and automatic cycling; (3) variable speed; (4) reversible roll rotation; (5) scale for manual measurement of cuts and scale which shows amount of material remaining to be cut; (6) automatic knife lubricator; (7) automatic grinding assembly.

Oscar I. Judelshon, Inc., 148 Green St., New York 12, N. Y.

Do you want more data? Write ◂ or use card on page 189; list D-129

Knitting stretch yarns? Lubricant saves needles

A yarn lubricant called "Nyloil" #1941 protects needles and sinkers from the excessive pressure of stretch yarns.

Applied to the yarn by either trough or conventional oil jar, the lubricant offers the advantages of little loss due to evaporation, easy removal by scouring, no gummy deposits on machine parts, and friction problems minimized because of less spray.

Richmond Oil, Soap and Chemical Co., 1041 Frankford Ave., Philadelphia 25, Pa.

Do you want more data? Write ◂ or use card on page 189; list D-130

Polymer PRODUCTS

YARN PREPARATION

Nylon Size (Polyacrilic Acid TS-20)†
Dacron Size (Polyfilm SD)
Loom Finish Size (Polyfilm L)
Fugitive Tints (Rinse Free Colors)
Softeners, Waxes, Lubricants, Plasticizers, Gelatines, Penetrants, Soluble Crayons

PRINTING-ROLLER and SCREEN

GUMS and THICKENERS
Water Soluble (Polygum 220, 221, 225 230, 260)
Prepared Type (Polyprint SM 500)
EMULSION BASE THICKENERS FOR ALL DYESTUFFS

FINISHING

SOFTENERS
Cations (Polysoftener 200, 250, 800)
Anions (Polysoftener 75, 346, 1525, 1610)
Non-ionic (Polysoftener 100)
Sewing Lubricant A554

PLASTICIZERS

Polyflex 120, 910
Polylube P (Polyethylene Emulsion, Anionic)
Polylube EE (Polyethylene Emulsion, Non-ionic)

RESINS

Water Soluble (Polybond 20, 60, 90, BF)
Thermo Plastic (Polyvin Series)
Thermo Setting: Polyresin FS (Cyclic Urea Formaldehyde); Polyresin AB50

WEIGHTERS

Polyweighter P
Polyweighter 6U

PIGMENT COLORS*

Imprint: Resinated Concentrates for Water System Printing
Impad: Concentrates for Pad Dyeing
Imperse: Non-ionic and Anionic Aqueous Dispersions

PIGMENT BINDERS

Binder Concentrate 1717
Low Crock Binder (1559, 1718)

ADHESIVES

Screen Table Adhesive W70
Screen Machine Adhesive SP

PENETRANTS, DETERGENTS, DEFOAMERS, THICKENERS, WETTING, AND REWETTING AGENTS, SYNTHETIC DYEING ASSISTANTS

†Sole agents to textile industry for B. F. Goodrich Chemical Co., mfrs.
*Sole agents to Textile Industry for Imperial Paper & Color Co., mfrs.

Polymer INDUSTRIES
SPRINGDALE, CONN.

Polymer SOUTHERN
GREENVILLE, SOUTH CAROLINA

Seamless quality *(from page 122)*

from a new package produced by Chemstrand.

Other important technical developments, concerning length control, are the electronic and pneumatic stitch control devices that have been developed in recent years. There has been ample proof that these intricate mechanical devices do help in controlling length.

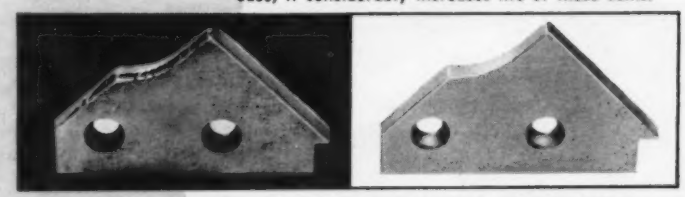
However, these mechanical attachments *do not measure the stocking.* They simply readjust the knitting depth of the needles to offset the ill effect of varying yarn tensions in stitch formation. Stockings still have to be measured periodically by other means so that stitch controls of all machines can be adjusted to knit stockings the same in length and foot size.

It is generally accepted that the primary obstacle to controlling the length of seamless stockings has been the human variable in stretching stockings over a rigid form before measurement. This natural variable, along with the resulting absence of fixed testing standards and tolerances, is the chief cause of unnecessary and improper adjustments being made to stitch regulators.

This is particularly true in mills where more than one person is required for testing stockings and adjusting knitting machines. The more people involved, the more difficult it is to attain maximum product uniformity. Fortunately, the latest model Volumet, a special instrument for testing seamless hosiery, has proved through extensive use in a number of mills to eliminate variables due to the human element in measuring stockings. With one instrument (more in the larger mills), a number of operators are using identical testing standards. Moreover, by virtue of the graph-like printed forms and recording shelf

CHROMALLOY *Doubles Life* of KNITTING MACHINE CAMS

The patented CHROMALLOY diffusion process produces a wear-resistant chromium carbide surface on the high carbon steel cams used in circular knitting machines. This surface will not peel or crack. Similar in hardness to tungsten carbide and known as the Chromacarb Case, it considerably increases life of these cams.



Knitting machine cam (left) made of SAE 1095 high carbon steel after one month 24-hour-a-day service. Wear ridges on top surface cause an uneven knit. Identical CHROMALLIZED cam (right) has no wear ridges after same service and lasts 2 to 4 months.

CHROMALLIZED thread guides which demonstrate a similar increase in service life are available also.

SPECIFY CHROMALLIZED CAMS AND THREAD GUIDES FROM YOUR REGULAR SUPPLIER.

For technical information write to:

Chromalloy corporation
450-D TARRYTOWN ROAD · WHITE PLAINS, NEW YORK
WHite Plains 6-0020

(see illustrations), testing standards and daily records are easy to maintain.

With this instrument, any foot size of either grey or finished stockings can be measured precisely from heel gore to toe tip. And since it is most important to make rapid, accurate tests immediately after knitting, this portable instrument is equipped with a built-in toe locking device so that unlooped stockings may be tested directly at the knitting machines.

Furthermore, toe length, foot size, leg length, and welt dimensions are accurately measured and recorded in a single testing cycle. Therefore, it is an easy matter to maintain a reliable record of daily grey test results. When not in use, these reports are posted at the end of the line of machines they represent, in plain view of all concerned.

Multiple assignments *(from page 123)*

rangement as is now necessary we would have had a much better quality and waste figure. With the proper training and follow-up, the waste figures will improve and approach the figures in evidence before the changes were made. The progress made so far on these items is certainly more than many mill men expected two years ago.

(4) Machine maintenance requires constant follow-up. It is still an important factor, as it has always been. The threading, points, needles, and machines in general need to be in first-class condition to operate under a multiple machine assignment with maximum production and good quality.

These items of maintenance have improved if anything in most cases, mainly because of close follow-up due to anticipating that these things need a lot of attention. The knitters also are accepting the increased responsibility of their jobs and trying to do a better job. There are exceptions, and where these exceptions exist there is a retraining problem.

(5) We are still learning and will continue to learn new things about multiple machine assignments. There are many forms of the multiple-machine assignment in operation, and each one has its merits and shortcomings.

Improvements are in order, and any ideas or suggestions would certainly be welcome. Two heads are better than one, and many heads can make much progress.

Designer's place *(from page 125)*

manufacture something like this, let alone deliver it promptly?

For the Defense: That is your problem, not mine.

The designing process, now closely allied with merchandising, enters a critical period at this time. There are several key group meetings at which the individual trials will be discussed and the new line, as it is now roughly outlined, will be presented; presented perhaps to a group of executives in the company—these will usually consist of executives in advertising, selling, manufacturing, and promotional fields; or to a group of salesmen; or to a group of customers; or to all three.

These are very important meetings because the line gradually, over the course of these meetings, gets hammered down into the hard steel of practicality — a baptism of fire, so to speak. Garments individually and the line in general are criticized and commented upon. Suggestions are made.

After a series of such sessions, the line has assumed a somewhat different form than the original presentation. The final decision is at last made and salesmen's samples go into work.

How will the saleman react?

For the Prosecution: How in the world do you ever expect me to sell this?

For the Defense: Just keep your comments to yourself. When our company does it, it's right.

A sales meeting is a stimulating thing. All the men are very anxious to see the lines because their profitable existence depends upon these lines. The presentation of the line at the sales meeting is also another critical period because the reception of a line is very important. Some firms will not allow their salesmen to make any comments whatsoever. Others will allow the salesmen to make too many comments. In one case, we have a dictatorship; in the other, a complete anarchy.

Either one is wrong because intelligent ideas, given after sound consideration, are worthwhile and should be taken into account, to a point. Architects design houses and nine out of ten of them leave something out, however small, and usually the builder picks it up. It is just the same in the apparel field. No one in any group can think of everything, within a given category.

How will the line sell?

For the Prosecution: Okay, it is doing well—if we had a better line, we would sell more.

For the Defense: Our salesmen don't know how to sell good merchandise.

This is the constant battle, of course, between salesmen and those in the company responsible for bringing out lines. It will al-

ways be thus.

Nevertheless, within a reasonable amount of time, the line has been put together—a relatively successful line. True, the designer comes out a little like the matador who feels a great deal of satisfaction immediately after a successful Sunday bullfight, but who succumbs to a controlled panic the next day in anticipation of the bullfight next Sunday—out of the frying pan, into the fire.

Yes, there is always another line to get out next season, so let's get going!

Development at Shelton *(from page 131)*

when either knitting conditions or finishing techniques can be altered to produce the desired change. But functional properties of the sock are primarily achieved by proper selection of fiber, yarn size, and stitch; while dyeing and finishing operations primarily serve to develop the proper texture, appearance, and hand.

To get the proper hand, the finishing route and selection of dyeing machine—whether paddle or rotary—are important. And since no one finishing agent is suitable for every fiber or fiber blend, some experimentation may be involved until the proper finishing formula is established.

In a blended sock, fiber content is significant. Varying the content of one of the fibers in the blend by as little as 10% produces noticeable results in appearance, texture, and hand.

Though development work appears to be a process of trial and error, it actually proceeds along logical lines until the proper effects in the finished sock are achieved—within the price range, of course, that was originally established. Some trial and error, however, is unavoidable when it is considered that so many properties are required in a finished sock, especially in styles which utilize high bulk and stretch yarns, which have given hosiery new dimensions. The list of properties, in fact, is almost too long to mention. Besides appearance, texture, and hand, fitness and comfort in wearing are required, along with color fastness to repeated washing, and shape retention upon prolonged wearing.

SHELTON'S policies regarding development are quite simple. Development of a particular item continues until no apparent improvements can be made. Thus, when the item hits the market it is not readily imitated or improved upon.

Continual development of new hosiery lines, which has given Shelton a steady year-round production, places some need for diversification in knitting. While the majority of Shelton's production is done on S & W Komet machines, there are also Bentley Komets, and needle warp machines, and most recently the company purchased a number of Morpul machines to specialize in knitting girls' and men's anklets of Orlon and wool. To give some idea of Shelton's knitting and finishing capacity, the weekly output during a peak season can reach 5500 dozen pairs of hosiery in a wide range of styles, patterns, and textures.

AFTER KNITTING, the hosiery follows conventional routing, which includes inspection, looping, and turning, until it reaches the wet processing operations, which can vary according to fiber and yarn type and desired finished effects. It is not uncommon in this diversified plant to process a variety of hosiery styles at any given time in which many fibers are used: cotton, wool, nylon, stretch nylon and high-bulk Orlon, not to mention blends.

In dyeing pastel shades on cotton hose, only the soluble leuco vat ester colors are used. These meet the required fastness properties, and are not as troublesome as vats in application on paddle or rotary machines.

After dyeing and finishing, the hosiery is extracted, tumble-dried to a low moisture content, and finish boarded. Then it is inspected and hand paired for shipment.

Shelton considers its smallness an asset in today's changing markets. Together with its flexibility, it enables the company to meet changes promptly. It is extremely unlikely that many items in Shelton's present line will be among those present five years from now.

Profitable week *(from page 117)*

Show Hours. Following is a list of the opening and closing hours to be observed on each of the five days:

Day	Show Opens	Show Closes
Mon.	Noon	6:00 P.M.
Tues.	Noon	10:00 P.M.
Wed.	10:00 A.M.	6:00 P.M.
Thurs.	10:00 A.M.	6:00 P.M.
Fri.	10:00 A.M.	1:00 P.M.

Hotel Accommodations. If your hotel reservations have not already been made, send immediately your requirements directly to the Housing Bureau, 16 Central Pier, Atlantic City, N. J.

Hosiery Meetings. The Hosiery Industry Conference and annual meeting of the National Association of Hosiery Manufacturers will be held on Monday and Tuesday mornings, May 4 and 5, with a short closing session on Tuesday afternoon, the 5th. (Note: The Knitting Show will not open until noon on these days.)

The Association's annual banquet is scheduled for Monday evening.

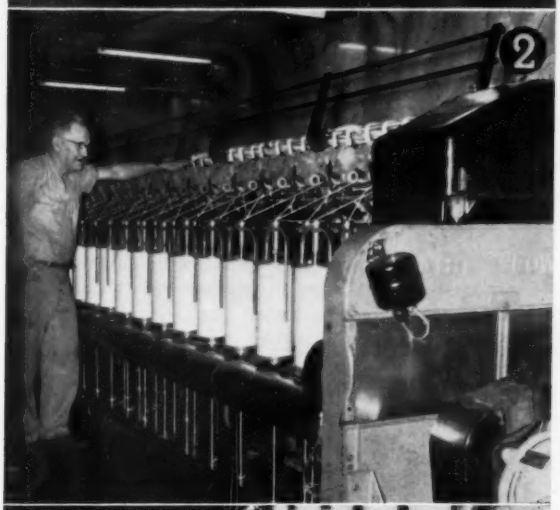
All of these functions will take place at the Claridge Hotel.

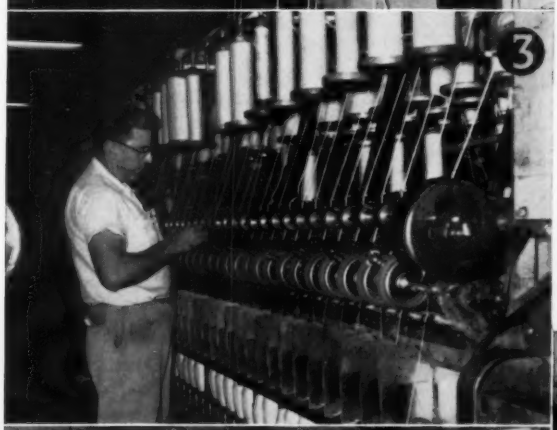
Underwear Meetings. On May 4 the board of directors of the Underwear Institute will meet at the Traymore Hotel.

The annual meeting of the organization will be held on Tuesday, May 5, at the Traymore.

Outerwear Gathering. On Wednesday, May 6, the National Knitted Outerwear Association will have a reception and party for its members and friends in allied fields in the Diamond Jim Brady Room of Hotel Shelburne.

Worsted yarn mill stays modern, competitive





Staff Prepared—Exclusive

PALMETTO WORSTED MILLS, Laurens, S. C., must stand close inspection by management at any time in terms of cost of operation as well as in condition and types of machinery in production, according to W. Fred Davis, president. Production equipment and facilities must be kept up to date to remain competitive, and in line with this philosophy the mill has been revamped within the last several years to keep the worsted system modern.

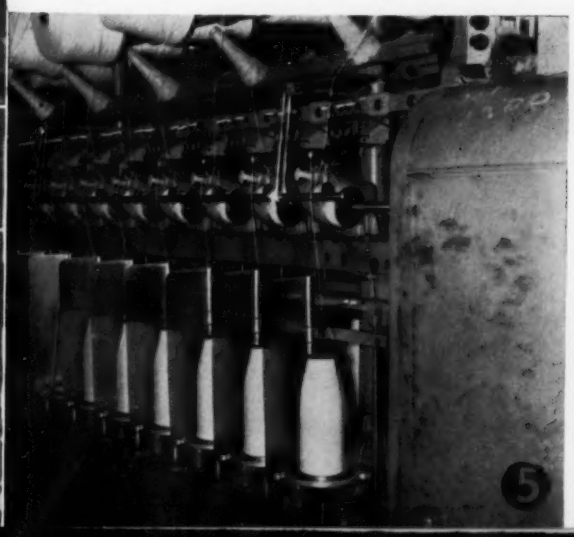
Pin-type drawing *(Picture 1)*, both 1200- and 1500-drop machines, are in operation. Also 12″ x 7″ roving *(Picture 2)* frames were placed in operation producing a package weighing about five pounds. The mill formerly used reducers and rovers, which were replaced to eliminate one operation.

New drafting units were installed on the spinning frames *(Picture 3)* with three-inch rings and nine-inch traverse. These make six- to twelve-ounce packages, depending on the yarn produced. Formerly a three-ounce package was made. Polyethylene screens *(Picture 4)* prevent fly cross contamination at the winding processes.

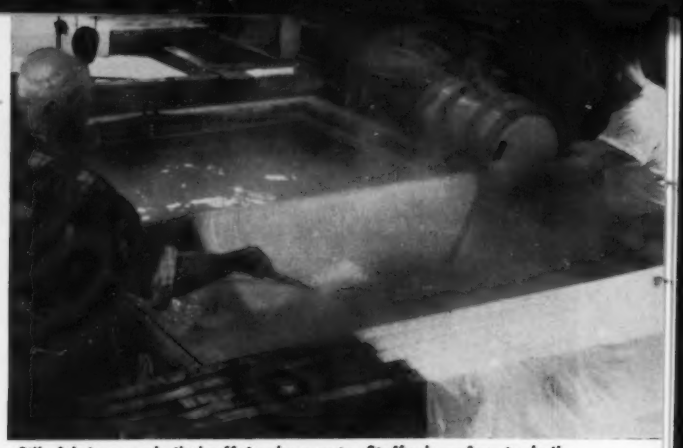
New large-package twisters *(Picture 5)* are used for the heavier counts (the finer yarns are put up in one- to three-pound packages on bobbins). The yarn is skeined or wound on cones for shipment, depending on customer specifications.

The plant produces coarse and soft twist yarns for upholstery, machine knitting, hand knitting, carpet yarns, mop yarns, tufting, and makes counts ranging from single ½ worsted to 26s worsted. Almost any fiber may be found in process here, and practically all blends have been made except those using cotton.

The mill has been running six days a week on a 24-hour schedule for several years without interruption.



Stafford Printers, Inc., have their own pantograph engraving and chromium plating facilities for quicker deliveries and for prevention of any delays in printing when engravings require adjustments.



Silk fabrics are boiled off in deep vats. Stafford prefers to boil off by hand in the traditional way, since the process can be carefully controlled to retain proper amount of seracin in the fabric.

Silk printing plant diversifies

Stafford Printers used their know-how in the dyeing and printing of silk to keep up with changing markets and diversify into processing synthetic-fiber fabrics

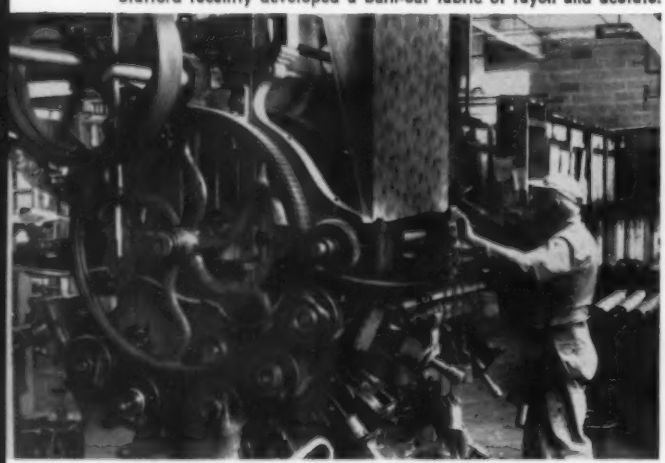
Staff prepared—Exclusive

WHEN Stafford Printers, Inc., Stafford Springs, Conn., entered the finishing business in 1939, as dyers and printers of silk, the changes that were to sweep the industry were still some years away. So in the years that immediately followed, aside from its part in the war effort, Stafford concentrated on developing its facilities for processing silk.

But soon after the war ended, it became apparent that new fiber developments and technological advances were beginning to change established markets. These changes clearly called for diversification at Stafford.

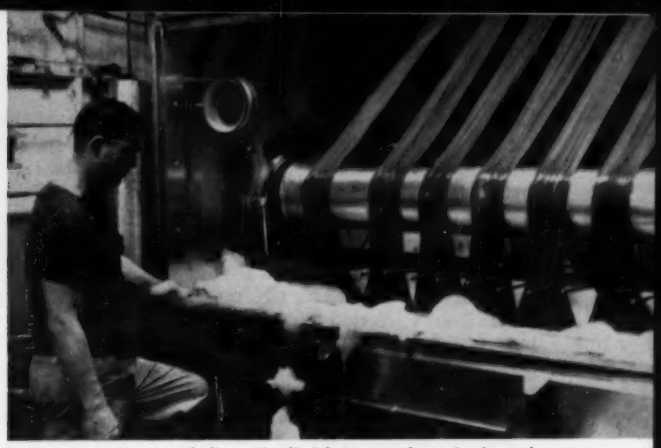
Perhaps the most notable change was the increasing acceptance of blended fabrics. The practicality of blending silk with rayon was catching on; and mean-

Application, blotch, and discharge printing, in up to eight colors, are the types most popular for the dressgoods and outerwear trades. Stafford recently developed a burn-out fabric of rayon and acetate.



This is the entering end of a new gas-fired finishing range at Stafford Printers, Inc., where fabrics can be dried and cured, or dried and heat-set, at temperatures up to 500 F, with precision control.

Processing routes depend on the fiber or fibers in the fabric. Many man-made-fiber fabrics are scoured on a continuous range and are then dyed on the beck or the jig, depending on fabric construction.



Some constructions, including all silk fabrics, are best dyed on the beck, loosely packed. With silk fabrics, the dyeing cycle can not be prolonged; these fabrics are susceptible to chafing and bruising.

while screen printing was cutting into the volume of roller printed silk.

In the process of diversification, the company considered getting into cotton finishing, which showed signs of growing. But together with the fact that Stafford had no bleachery, cotton finishing plants were beginning to concentrate in the South, so the company began to diversify with the changing markets. Moreover, the Stafford plant and staff were oriented to processing a higher priced fabric in smaller quantities, for markets where Stafford had stronger footholds.

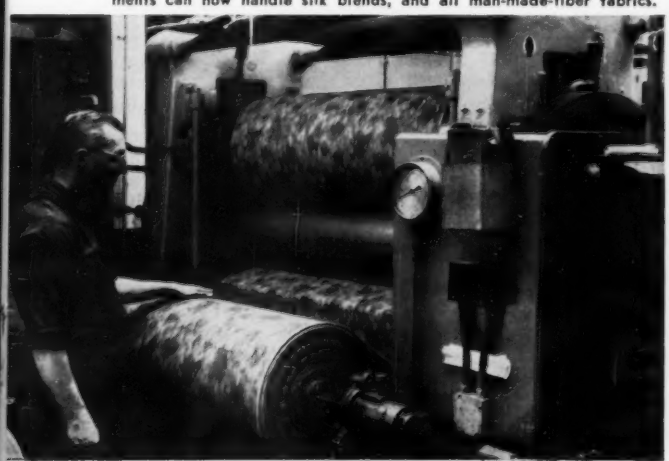
Thus, the pattern of diversification followed the introduction of man-made fibers and blends, but not to the complete exclusion of silk. This diversification, which has required addition of new types of equipment, and development of new processing techniques, has not let up to this day. It is interesting to note that despite many changes, the flow of goods through the one-story plant still follows the U-shaped route first established when the plant began operations.

Stafford's plant, approximately 100,000 square feet in size, is located on a 22-acre site. One of the chief advantages of the location, according to management, is the abundance of surface water, which despite its low degree of hardness, is given a chemical treatment before usage.

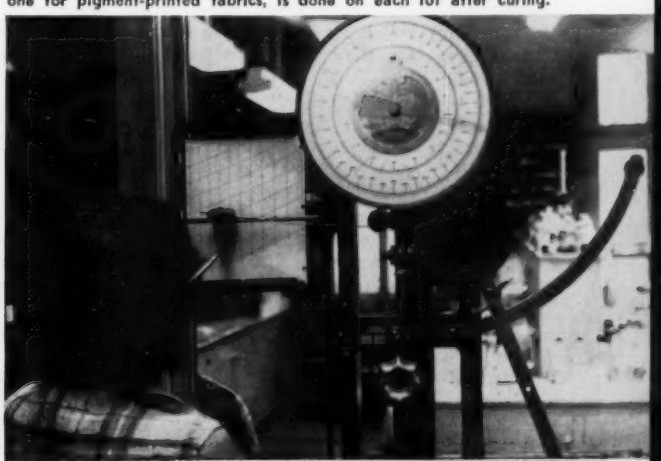
Silk: A Tough Fiber Requires Delicate Handling. Since the plant began to diversify about 10 years ago, the ratio of silk fabrics to total production has declined. Today, silk fabrics comprise about 15% of Stafford's annual output while blends of silk and rayon account for approximately 30%. The remaining 55% is made up of various man-made fibers, and blends with natural fibers.

As every technologist knows, the silk fiber possesses among other desirable properties a high strength, but nevertheless it requires careful mechanical and chemical processing if its properties are to be preserved. Despite the fact that new processes are occasionally developed for boiling-off silk, to remove just the proper amount of seracin in the most efficient way, Stafford Printers have found that the traditional method, though done by hand,

With diversification, silk printing accounts for a smaller percentage of Stafford's production. The calendering and finishing departments can now handle silk blends, and all man-made-fiber fabrics.



Besides physical testing, as shown below, Stafford's laboratory evaluates and formulates colors and pigments. Crock test, important one for pigment-printed fabrics, is done on each lot after curing.



has proved most satisfactory.

In its natural state, silk contains about 26% seracin. To retain about 4%, to serve as protection for the fiber, the water must be properly conditioned, and the boiling-off bath adjusted to proper pH and alkalinity. The process is carried out in deep vats where the individual pieces, sewn into endless lengths, are carefully turned by hand, simulating the hand dyeing of skeins.

Excessive temperatures, or prolonged boiling-off, can cause "graying," a condition which indicates loss of fiber properties. After boiling-off, the pieces are transferred to freshly prepared water baths for the proper amount of rinsing. Stafford prefers to handle domestic silks, which are woven in this country, rather than imported silks, which arrive already prepared, since the plant can thus control the entire processing.

It is almost needless to point out that in applying color to silk, which still is regarded as a luxury fiber, only the best available colors are used. As with any fiber, selection also depends on end usage. And where dyeing precedes discharge printing, color selection must take into consideration dischargeability.

During dyeing, silk is quite susceptible to chafing, and for this reason it is dyed on becks with careful loading to insure easy movement from a loosely packed condition. Unlike dyeing other fibers, the silk dyeing cycle cannot be prolonged, for the danger of chafing and bruising increases.

The drying operation which follows, after careful opening of fabric, is likewise critical. Recently Stafford acquired an early model of a drying range which has been insulated and equipped with modern drives for more efficient operation. In this range, the fabric is dried in a relaxed condition on a series of conveyors. The plant found that festoon drying, though efficient for many other fabrics, caused crease and chafe marks on many silk constructions.

As in dyeing, color selection for printing is made on a similar basis, not only to meet end-use requirements but also those of printing and ageing. Most patterns in the Stafford line are multicolored for the dress goods and outerwear trades, and all printing machines, except a single color machine, can print up to eight colors.

After printing, the fabrics are aged in a neutral steam atmosphere and given a thorough soaping, with light squeezing, on a tensionless range which is arranged for continuous operation with a tenter-dryer.

In normal finishing of silk, the formulation can consist of a weighting agent, in small percentages, and a scrooping agent, which slightly build and modify the hand. In the last operation, calendering, the fabric acquires the characteristic softness always associated with silk.

New Fibers Require New Equipment and New Skills. While the processing of silk fabrics follows routes which have not changed significantly over the years, the introduction of man-made fibers and blends into the Stafford plant brought the need for new equipment and new processing techniques. In general, the

New cellulosic fibers and fabric stability discussed

■ THE RESULTS of a fundamental investigation of the stability of fabrics made from cellulosic fibers show that fabrics made of rayon shrink because the fibers are too easily extensible when wet, G. V. Lund of Courtaulds (Alabama) Inc., reported at a recent meeting of the American Association for Textile Technology which was devoted to a discussion of the subject "New Cellulosic Fibers and their Contribution to Fabric Stability."

Mr. Lund said it became obvious as a result of this investigation that to improve the stability of fabrics a man-made, cellulosic fiber must, when wet, have a stress at 5% extension of not less than 0.5 grams per denier—that is, the fiber must have what is called a high wet modulus. This was found to be the best method of reducing to a minimum the inherent felting shrinkage potential of cellulosic fibers, he explained.

As a result of these discoveries, fiber manufacturing research and development set up a number of programs and produced fibers of suitably high wet moduli, according to Mr. Lund. An added bonus from the work was that so far all fibers produced with high wet moduli had higher dry moduli which resulted in fabrics of firm hand and greatly reduced rubberiness, making them highly promising for finishing by compressive shrinkage methods.

Mr. Lund mentioned that his company's entrant to the race was known for the time being as SM-27, and small quantities were available for evaluation.

T. R. Scott, Jr., of American Enka Corp. then spoke of the results of extensive research work by his firm which had resulted in the development of a new fiber in the family of cellulosics. This had been designated as Enka Fiber 500.

This fiber enabled the production of fabrics in which it is indicated that shrinkage can be effectively controlled by compressive shrinkage. It effectively eliminated the progressive shrinkage associated with rayon while retaining the important advantages of the latter with respect to resin treatment and other properties.

In resin treatment for wash-and-wear, fabrics made from this fiber had equivalent crease recovery angles to those of cotton, but did not show the excessive embrittlement and resulting loss in tensile and tear strengths experienced with cotton, according to Mr. Scott. The reason for the improved performance characteristics of this fiber was its high wet modulus.

The work at Enka was reported to have been on similar lines and had shown similar results to those referred to by Mr. Lund—i.e., that the high wet modulus of cellulosic fibers largely determined dimensional stability of fabrics made therefrom. The Enka research had also shown that swelling is relatively unimportant. Furthermore, it showed that fabrics made from cellulosic fibers in which a load of 0.5 grams per denier or higher was required

fabrics offer greater flexibility in processing, but in most cases the dyeing cycles are considerably longer than in dyeing silk, and extra operations are required in finishing.

Many fabrics and fabric blends can be prepared in the open width, on the boil-off range, and can be dyed either on the beck or on the jig, depending on fabric construction. The processing route for a blend of silk and rayon depends largely on the fiber with the highest content.

Where silk content is high, the fabric is treated essentially as a silk fabric. But in all cases, regardless of fiber or blend, experience serves as the precedent for processing, in which fabric construction and desired end result are important factors to consider.

The Role of the Laboratory Gets Bigger. To assist the plant in processing man-made fibers and blends, Stafford has expanded its laboratory and increased the staff. The more important functions of the laboratory include evaluation of colors and pigments and formulation of these; analysis of incoming grey fabrics; and testing of fabrics, colors, and finishes under a quality control program.

The test for crocking is the most important one carried out on pigment-printed fabrics. Each printed lot is followed through to completion. In some cases, the fabric is given additional curing to attain maximum fastness to crocking.

The laboratory is also active in development work. Recently, Stafford introduced a silk broadcloth, which possesses minimum care properties and improved color fastness, with a residual shrinkage of 2-3 per cent. This work followed the trend to machine-washable fabrics.

One of the shortcomings of silk has been the poorer fastness of silk colors which have kept this fiber in the hand-washable class. Stafford believes that its development is a significant step forward.

Formula for Survival in the North. A tour of the Stafford plant clearly shows that management is moving into a flexible position to meet whatever changes may be forthcoming in the higher priced markets. This is reflected in some recent purchases of equipment. To finish a broader variety of fabrics, a new finishing range is now in operation, where drying and curing, or drying and heat-setting, can be combined. The range is gas-fired, affording precise control over temperatures up to 500 F to suit the requirements of the fiber(s) in the fabric or the resin formulation.

Most recently the company broke ground for a new addition, which will house a high-speed ager of the festoon type, and will have sufficient storage space for 2500 additional copper rollers. The new ager, which will double ageing capacity, is actually an expansion move since additional soaping equipment will be required. Plans call for completion of these projects by June.

Stafford management now feels that the plant's printing facilities, which include pantograph engraving and chromium plating as well, enable the processing of virtually any type of fabric regardless of fiber.

to produce 5% extension in the wet fiber would show little progressive shrinkage, and relaxation shrinkage could be controlled by mechanical compressive procedures. This, as is seen, was similar to the results of the Courtaulds work.

G. G. Whytlaw of American Viscose Corp. drew attention to the results of the development and evaluation work on American Viscose's new Fiber 40. This work, done both on a laboratory and on a commercial scale, indicated a totally new range of properties and characteristics for this new cellulosic. It was anticipated that it would enable textile manufacturers to weave and finish new fabrics which would compete strongly with existing market fabrics for consumer satisfaction in hand, luster, drape, color, wash and wear, and utility. The high wet modulus of the fiber made it an ideal blending fiber for use with cotton as well as the hydrophobic fibers.

In a challis, tests showed that Fiber 40 accepted compressive shrinking easily and gave less than 1% shrinkage in the warp after twenty washes and no shrinkage in the filling. A gabardine of Fiber 40 showed excellent stability, ravelled less than rayon and therefore should have no tendency to seam slippage.

Only 10 lb of cotton needed for this spinning test

■ A PROCEDURE developed at a USDA laboratory appears to have possibilities of being refined into an excellent test method for obtaining the spinning performance of cotton from samples as small as ten pounds, according to information contained in a preliminary report*.

The method proposed is based on the common knowledge that finer yarn numbers spun from the same cotton under the same organization and conditions produce a greater number of spinning-end breakages per hour. A series of yarn numbers are spun to obtain the relationship between yarn number and number of ends-down. The point where the trend line of this relationship intersects an arbitrary number of the end breakages line is defined as the "spinnable limit."

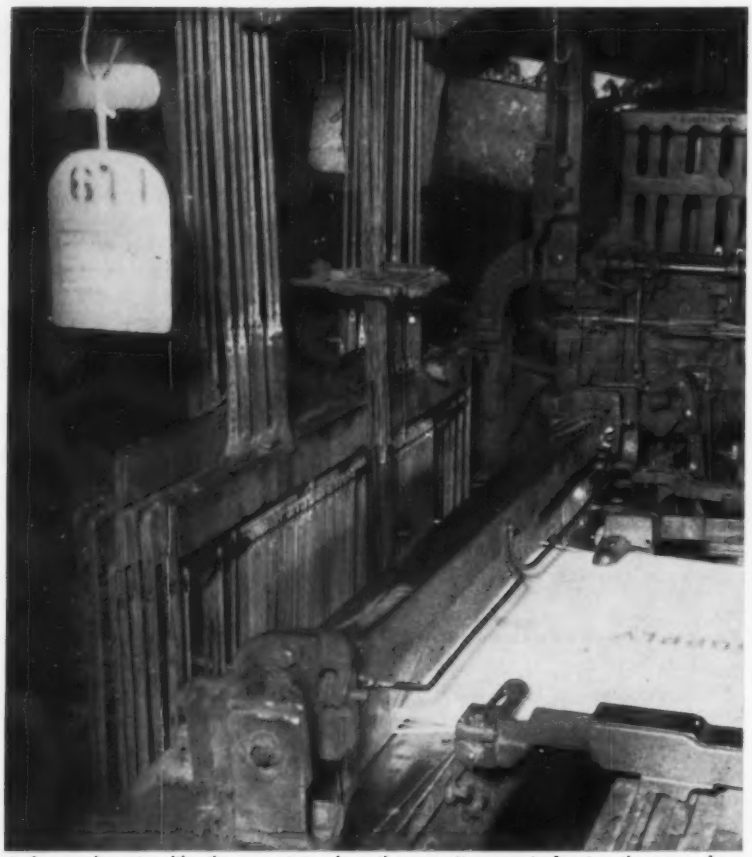
Approximately 10 pounds of cotton are required for these tests on medium-staple cotton, slightly more being required for shorter staples and slightly less for longer staples.

A practical use for the procedure would be to measure the effect of harvesting, ginning, or any manufacturing process, before spinning, on the spinning performance of cotton, according to the report.

It is estimated that the spinnable limit results are reproducible to well within plus or minus two yarn numbers at the same laboratory. The problem of reproducibility of the results over a period of time at the same laboratory and between laboratories will require further work.

*"A method of Evaluating Spinning Performance of Cotton," AMS 299, U. S. Department of Agriculture, Agricultural Marketing Service, Marketing Division, Washington 25, D. C.

How to make fancy terry



A Jacquard motion like the one pictured on the opposite page is forming the name down the center of the towel being woven here. Note in above photo that Jacquard harness (center) passes through a comber board which was made at the mill from two sections of reed. (Construction details are apparent in the close-up photo at the right.) The ground ends and pile ends not needed in forming the name are controlled by the dobby motion.

The comber board through which the Jacquard harness passes is in effect a grid formed by mounting, face to face, two reed sections so that the dents of one are at right angles to those of mate.

by T. Hargreaves
Exclusive

Part 1

Points to consider in choosing the Jacquard-loom combination for weaving names in terry towels

THERE ARE several ways to combine the Jacquard machine with the specially constructed loom used in terry weaving.

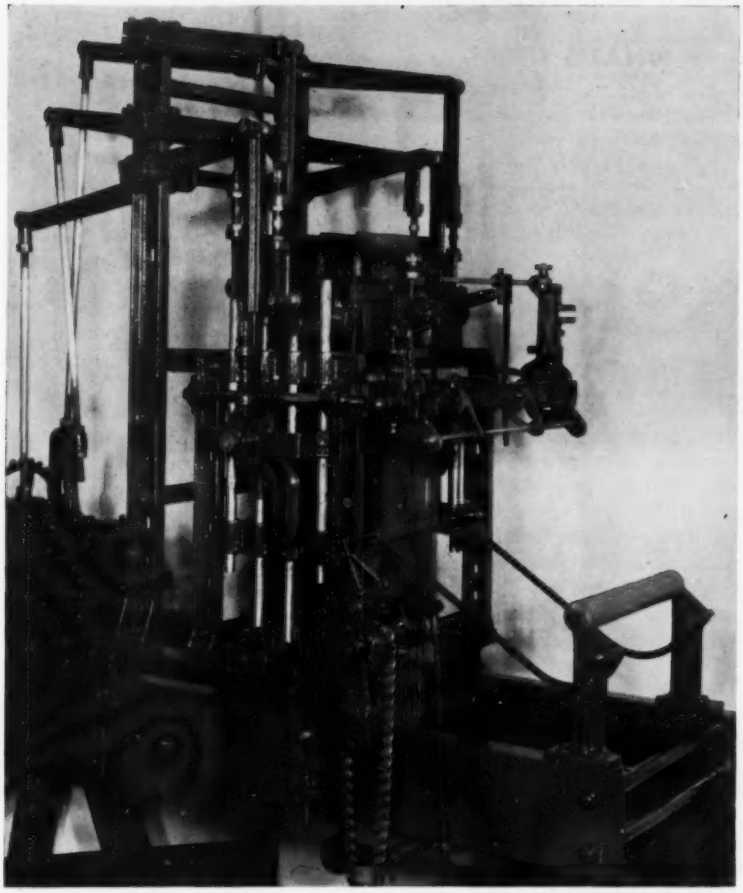
1. The loom can be constructed with under-cam motions with which to operate the frame harness carrying the ground warp threads and to operate the pile warp frame harness.

2. Or it can be fitted with a multiple or single pattern cylinder dobby for control of the ground warp frame harness and (if necessary) to control any pile warp frame harness that may function when weaving Jacquard patterns in terry fabrics.

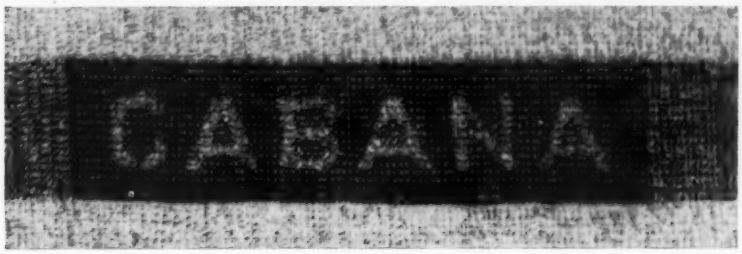
3. Alternatively, the pattern to be woven can have all pile and ground ends carried in Jacquard-operated harness.

The type of Jacquard used in terry fabric weaving can be either of the following types:

a. 104-hook, single-lift, single-cylinder, one card to each pick (very seldom used).



Especially constructed for terry fabric weaving, this 104-hook, single-cylinder, three-lift Jacquard motion holds card for three picks, makes pick matching a very simple task. This is the type motion often used to weave names such as appear in the wash cloth below.



b. 104-hook, double-lift, double- or single-cylinder, one card to each pick.

c. 104-hook, specially constructed, single-cylinder, one card to serve for three picks.

Any of these three types of Jacquards may be successfully used to weave the names of hotels, hospitals, institutions, clubs, etc., into the terry fabric. The name so woven, usually down the middle and about two to three inches wide, may be white letters on a colored background, or vice-versa, or in sculptured type of blocks of terry alternating with blocks that do not show terry on the face.

Whether the woven name be alternating white and color, or alternating blocks of sculptured terry, the underside of the towel will show the pattern in reverse. The terry loops if not showing on the face must be woven on the underside. It is not possible, with terry weave construction, to do otherwise.

Usually towels of this description are white with the name in color down the middle. All the ground warp threads are carried in frame harness, and that also includes the selvages.

The white pile warp threads at each side of the woven name are also carried in frame harness. Both these sets of pile and ground frame harness are controlled by the under cam motion, or, if the loom is so fitted, by the dobby.

The pile warp threads which are used to weave the name of the hotel, hospital, etc. are carried in the Jacquard harness. This Jacquard harness is carried and guided by a small comber board which is in front of the frame harness.

Behind this comber board are the two frames (heddles) which control the white pile threads in the body of the towel, and behind the pile heddles are the ground heddles which control all of the ground threads—body, selvage, and name. If the loom is of under-cam construction the ground will be on two heddle frames, but if dobby controlled it is better to use four heddles instead of two. This makes it easier for the dobby under springs to pull the heavily weighted ground threads to the level of the race board.

The Jacquard. The Jacquard is mounted over the loom in the usual manner. If the single-lift, single-cylinder type is used with one card to each pick, the Jacquard may be mounted with the pattern cards at the front, back, or to the side, whichever is found to be most convenient.

If the double-lift, double-cylinder, one-card-to-each-pick type of Jacquard is used, then the pattern cards will be in two groups, each cylinder being presented in turn. One cylinder will carry the odd numbered cards and the other cylinder the even numbered cards. The Jacquard may be mounted with the pattern cylinder in front and back, or at the left and right according to which way is the most convenient.

In this type of name towel, one repeat of the pattern is usually the full length of the towel, for even with names of few letters or initials, the buyer usually likes them stretched out to occupy the

full length of the towel. Even so, the buyer will also like some cross bars of terry all on top or all underneath, or, alternatively, bars of cloth without terry, to form a type of fancy border at each end of the towel.

Number of Cards a Problem. Thus, it is often the most convenient to cut a set of cards to suit the full woven length of one towel. A towel 45 inches long (loom state) with, say, 40 picks to the inch, will require 1,800 pattern cards for one towel.

This is quite a large number of pattern cards, and when it is considered that orders for name towels are no bigger than the hotel, hospital, etc., needs or can afford, then considerable pattern card changing does occur in this class of terry towel weaving. A small hotel with, say, twenty rooms does not wish to purchase any more than 25 to 50 dozen at a time. So it is seen that the cost of the pattern cards, card cutting and lacing, plus the loom stoppages for pattern card changing are costly items.

Cost-Cutting Tricks. To offset this cost, the designer tries to use, as far as is possible, a designing system that will enable him to so design the letters and spaces between the letters that they can be changed alphabetically, by removal and insertion, to form any name that may be required. This will not do away with the total cards needed but will save storing every set until a repeat order arrives, and it keeps to a minimum the total number of pattern cards used per year. To further offset the high cost of cards, and card cutting, a specially constructed Jacquard for terry weaving is available. This type of Jacquard is so constructed that one card serves for each terry loop or three picks. Instead of having to use 1,800 pattern cards to one towel, we can now accomplish the same job with 600 pattern cards.

Furthermore, we can also adopt more easily the alphabetical system of letter changing, and it is only necessary to have a single-cylinder Jacquard machine, with the cards being presented three times slower than for other single-cylinder Jacquards. It is obvious that this slower movement of the Jacquard pattern cards should give them a much longer life. Usually this special type of terry Jacquard will have the single pattern card cylinder at the side, where it is very convenient to change, and out of the way.

WHAT'S NEW?

You'll know in just a few minutes when you read TI's new, exclusive, monthly feature, "Recent Technical and Commercial Developments," which begins on page 89 in this issue.

Limitations. The specially constructed, one-card-to-each-three-picks terry Jacquard is not suitable for weaving fancy borders of other than terry weave effects. It will weave all forms of terry weave structure, terry up, terry down, no terry or all terry, two-tone or block terry effects based on the usual three-pick terry cycle.

In crested or name towels for hotels, hospitals, etc., it is highly improbable that the buyer will demand those forms of fancy end borders that employ other than terry weave structure, and so we are safe in installing this special card-saving terry Jacquard. It is simple, convenient, and easy to cut the Jacquard pattern cards, when the Jacquard weaving the name is coupled with either a cam motion or a dobby to weave the body pile, the ground, and the selvages.

If a double-cylinder, double-lift, one-card-per-pick type Jacquard is used, there would be 900 Jacquard pattern cards on each pattern cylinder—odd picks on one, even picks on the other. But such an arrangement is confusing to the weaver.

It takes three picks to form a terry. When it is found necessary to turn the cards back for a restart, it is difficult to keep the pattern cylinders in unison with one another and in time with the terry motion. If out of sequence, either cylinder to cylinder or both cylinders with the terry motion, then no terry can be produced. The pile yarn will become entangled and cause much trouble.

Weaver Aids. To avoid this, and assist the weaver, use a different color for marking the number on the cards for each set. For instance, mark 1, 2, 3, 4, 5, 6, etc., in blue on one set of cards and 1, 2, 3, 4, 5, 6, etc., in red on the other set. We would know that the blue-marked cards are the odd picks and the red-marked cards the even picks.

The weaver could then be instructed to set each cylinder at the same number for a restart. This numbering can be in addition to the regular numbering which would be on the other end of the card.

All this trouble is avoided when the special terry Jacquard is used.

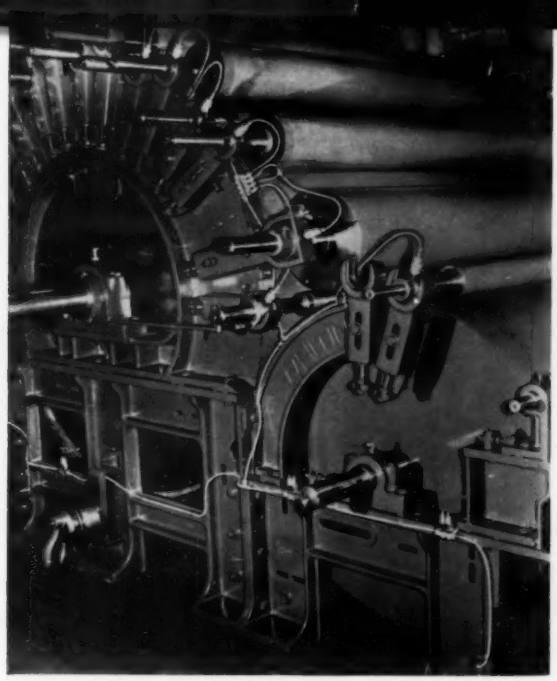
There is only one pattern cylinder, and as each card is valued for three picks, or the complete terry weave, any turn back cannot get out of sequence. The number of cards to be turned back is one for each terry loop missing or removed when restarting after a filling break.

When a single-lift, single-cylinder, one-card-per-pick Jacquard is used, it is much simpler for the weaver than when double-lift, double - cylinder Jacquards are used. The pattern cards cannot get out of sequence with one another, but can get out of time with the terry motion.

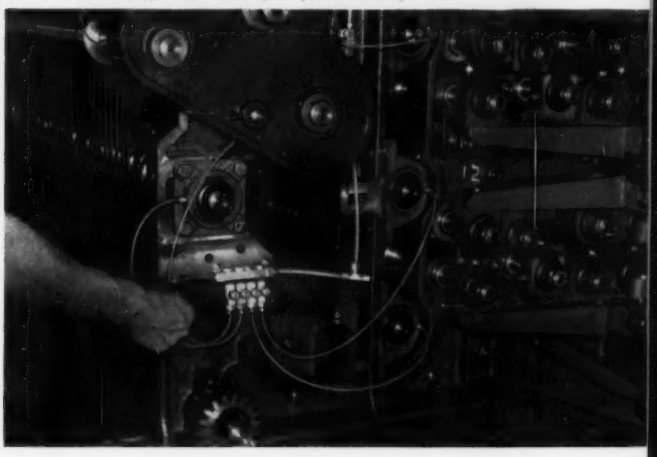
The weaver should be instructed to turn back in multiples of six cards or two terries. While there are only three picks to a terry, the shuttle is back in the single box side every two picks (2 x 3 equals 6 picks to a weave cycle when terry is being woven).

Regardless of the type of Jacquard (see the a, b, and c classifications listed early in the article), this six-pick cycle must be observed when turning back pattern cards, especially if the loom is equipped with multiple boxes at one side. Multiple boxes or not, the best way to avoid off-pick troubles in terry weaving restarts is to train the weavers on the six-pick cycle system.

(Part 2 of this article will appear in the next issue.—The Editors)



The woolen card is only one textile machine on which nylon tubing is being utilized successfully to convey lubricant to the bearings—there are many others. It is tough enough to withstand the normal wear and tear of roll removal and replacement (see left photo); also the vibration of the tape condenser (see photo below).



NYLON ARTERIES

cut installation and maintenance cost of central lubrication and other piped systems

Staff prepared Exclusive

BECAUSE so much is asked of it, tubing is one of the major sources of expense and trouble in a centralized lubrication system. For such layouts it must stand high internal pressure, must be light-weight, easy to handle, rigid enough to stand by itself but flexible enough to be bent in and around corners, and chemically resistant to lubricating fluids and environmental fumes.

In addition, the tubing should withstand vibration, heat, impact, humidity, and a few other things —depending on the particular application—and be inexpensive and easy to maintain.

A nylon pressure tubing that meets these requirements is being used on textile equipment. It has such a wide range of application that it can be used for the temporary repair of almost any broken tubing, but it is not suited for permanent installations requiring exposure to direct sunlight, for water lines at elevated temperatures, and for acid concentrations below pH 5.

Specifically, it is being used in centralized lubrication systems on carding and spinning equipment, in circular knitting machines, on special humidifiers, and for accessory equipment. And in each case it has cut operation, maintenance, and spoilage costs.

Reduces Installation Costs. Machine builders and mill men who have used the nylon tubing report it is often less expensive to install than other tubing. Initially, it is less expensive in small diameters (under ¼") than tubing and hose capable of withstanding similar pressures. In larger sizes it is a medium cost tubing.

The use of standard metal flare or flareless fittings makes this cost equal to that of fittings for metallic tubing—fittings on present machines can be used.

Substantial savings can be made in labor. Since the tubing is flexible, it requires no prebending to match machine-frame contours, no special-formed, awkward lengths of tubing need be handled, and the installer can work with a roll of tubing and a box of fittings. Labor savings as high as 50% have been reported for some installations.

Another time and cost saving feature is that a machine can be completely piped with one type of tubing. Previously it has been necessary, in many cases, to use metal tubing for rigidity and compactness, rubber hose for flexibility, and plastic tubing for visibility.

The tubing has been found by textile machine designers to offer: (1) good internal pressure ratings —2500 psi short-time burst pressure; (2) light weight—one-seventh the weight of copper; and (3) crush resistance beyond the limitations of metal tubing—32 ft-lb impact. The ratio of outside to inside diameter is small, it can be bent in a tight radius (see Table 1), uses standard, compact, inexpensive fittings, and can withstand flexing and vibration for millions of cycles.

Suited to the normal flexing, vibration, and rough handling ex-

Installation is simple. With a sharp knife or with a cutter as above, tubing is cut to length form rolls. The tube end may be flared, as is done with metallic tubing, and standard fitting used. Modified flaring tool (right photo) corrects for nylon's "springiness."

perienced on the breaker, fancy, worker, and stripper rolls of the carding machine, it is firm enough to "stand" (not sag) between connections. The rolls can be removed for cleaning without fear of damaging the tubing.

Reduces Maintenance Costs. As a replacement part, it is often easier and less expensive to use than other tubing. The advantages proven in original equipment installations are equally as applicable to replacement installation and repair. Any maintenance man can replace and maintain all types of lines with it.

The metallic tube fittings commonly used on textile equipment can be divided into three classes: (1) flare; (2) compression; and (3)

Resin odors in fabrics eliminated

■ DEVELOPMENT of a new chemical process that eliminates odors from resin-treated cottons and synthetics has been announced by West Point Manufacturing Co.

It has been successfully tested on more than 50,000 yards of fabrics in actual plant runs in several of the country's leading finishing plants, according to Dr. M. Earl Heard, vice-president in charge of research. In every case, he said, it "completely and permanently" rid the fabrics of all formaldehyde and amine odors.

The process, called "X-O," can be applied to all types of resin presently used in wash-and-wear finishing, including ureas, ethylene ureas, triazones, triazines, acetals, and their mixtures.

The fabrics treated by the process, which has been patented and will be licensed to finishing plants on a royalty basis, undergo no change in physical characteristics, according to Dr. Heard. "No additional plant equipment or change in present equipment is needed," he added. "The process can be conducted in available equipment at normal speeds, and plant personnel can be trained to use it in two or three days."

To determine the extent of the odor-formation problem in the industry, West Point had a management consultant firm do field interviews during the past year.

"These interviews indicate the odor problem varies at each industry level," Dr. Heard said. "Cutters and retailers are more concerned about the formaldehyde odor than the amine because of its concentration in large quantities of fabrics handled in confined areas.

"Both types of odors are of serious concern to finishers, who face the problem of possible odor formation after goods leave the plant," he explained. "This can be costly, since finishers accept the responsibility for returned goods that contain offensive odor."

With cutters and retailers, Dr. Heard pointed out, odor formation affects working conditions. Many have incurred considerable expense to "mask" formaldehyde odors in their plants and stores, he said.

"Consumers are aware of amine odors to a limited degree, especially in warm and humid air, the interviews show," he said. "But apparently most consumers are reluctant to complain of this problem because of its personal nature and their failure to identify its source."

Fabrics treated by the process were tested by a consultant dermatologist group, and their report shows they are neither direct skin irritants nor sensitizers, Dr. Heard concluded.

TABLE 1

Stock Sizes of Nylon Tubing

Short Time Type Burst Rating (PSI)						
T 1000	Outside dia. (")	1/8	3/16	1/4	5/16	3/8
	Inside dia. (")	0.096	0.138	0.190	0.242	0.295
	Minimum bend radius (")	5/8	1	1¼	2	3
	Standard coil length (')	500	350	200	150	100
	Lb per 100 ft	0.26	0.62	1.04	1.53	2.10
H 2500	Outside dia. (")	1/8	3/16	1/4	5/16	3/8
	Inside dia. (")	0.078	0.110	0.150	0.188	0.225
	Minimum bend radius (")	3/8	5/8	1¼	2	2½
	Standard coil length (')	500	350	200	150	100
	Lb per 100 ft	0.38	0.90	1.50	2.44	3.54

5/32" tubing is also available in Type T.

special. Of these, the three-piece flare fittings are frequently recommended, as they are reusable, inexpensive, and do not constrict the bore. However, compression fittings are also suitable for the nylon.

Cutting can be done with a sharp knife or a tube cutter. Either method produces the clean, square cut necessary, and deburring is not necessary. The use of a saw or shears is not recommended.

The flaring operation is similar to that performed on metallic tubing, but the tools are generally modified slightly to offset tubing "springiness." The standard flare tool used is modified to increase the included angle of the spreader from 90 degrees to 120 degrees, and the clamping bar is changed to correspond to the spreader angle. When operating the spreader, mechanics must exercise care to assure that the tool is merely "bottomed" to prevent weakening the flared portion.

It is necessary to have an adequate flare or lip. The tubing should extend about 3/32" above the tool for 1/8" (outside diameter) tubing, 1/8" above for 1/4" tubing, and 3/16" above for 3/8" tubing. Another common problem, when using metal flare nuts, is cutting, as the nylon flare is more easily cut than metal. This is generally due to over-torquing the flaring tool.

Savings are also possible in the actual length of tubing used, as a maintenance man may take the most direct route between connections. Since it can "stand" firmly between connections or be strung through existing gaps in the frame or machine parts, fewer tubing clamps need be installed to conform it to the machine frame.

Cost and labor savings may, naturally, be more prominent when the tubing is applied to systems requiring a large amount of tubing. But, any mill can cut maintenance costs for both new and old systems by using nylon pressure tubing. In addition, purchasing and inventory can be reduced to one type tubing and connection per size, as the polyamide tubing can be used as replacement for both flexible and rigid tubing.

Design men's wear fabrics to please the wives, study shows

■ RESULTS of a study of consumer attitudes that may change the pattern of merchandising of men's wear were disclosed recently. Undertaken for the marketing research section of Du Pont's Textile Fibers Department by W. R. Simmons & Associates Research, Inc., it shows that wives make most of the decisions on purchases of men's suits, slacks, business and sport shirts. Also, the study shows that wives like this responsibility.

The present study is based on interviews with 1,456 people in 100 localities over the nation in both metropolitan and non-metropolitan areas.

In all cases, identical questioning was conducted concurrently with both husbands and wives but under conditions where neither was aware of the other's answers. This procedure allowed the researchers to develop a record of mutually held attitudes and opinions.

The strength of the wives' influence is indicated by the men's statements on their sources of information on clothing. They ranked their wives first, above clothing salesmen, magazines, friends, and newspapers.

The most important way in which wives influence purchases is by accompanying their husbands when the garment is bought, or by acting as purchasing agent on their own. The study showed that these are very common practices, much more so than was suspected.

The wife went along in 47 per cent of the cases when the last suit was purchased, 44 per cent of the time for purchase of slacks, 58 per cent for business shirts, and 60 per cent for sport shirts. For purposes of statistical analysis the "went along" percentage figures include purchases made by the wife alone. Wives acted as sole purchasing agent most frequently for sport shirts (50 per cent), business shirts (48 per cent), and slacks (19 per cent). Wives were sole purchasers of suits in only five per cent of the cases.

In the high income group ($7,000 and over), 45 per cent of the men own five or more suits. The men whose annual family incomes are less than $5,000 own 43 per cent of all suits. In the high income group, 45 per cent had purchased a suit within the past six months, indicating a buying pattern of a suit a year. In comparison the low income group averages one suit purchase every three to four years.

In the high income group 63 per cent of the men own 10 or more shirts.

War on Unions?

"No reasonable person wishes to destroy unions, provided they are honest, law-abiding organizations which observe the common law which governs all the rest of us and do not insist on special laws permitting them to commit acts which are crimes when committed by any organization except unions."

by Ringgold Arden
Exclusive

ON OCTOBER 6, 1958, there appeared in the *Atlanta Journal* a large display advertisement by the United Steel Workers of America, and this occupied about one-third of a page. The caption of the advertisement was, "Who's Behind the War On Unions?"

Above this caption was a large picture occupying more than half of the space, and showing the back of a gentleman with a brief case under his arm, passing through a massive doorway which might have represented the entrance to a huge bank, or perhaps to the directors' room of a big steel company. Underneath the gentleman's right arm as he opens the door are pictured two men seated in chairs, and across from them a man dimly outlined who seems to be wearing some sort of uniform and an army steel helmet.

Just who this character is supposed to represent is not stated, but possibly he is the head of the union goon squad who has come to take over the place and carry its lawful occupants out in the street, as soldiers lugged Mr. Sewell Avery, the chairman of the board of Montgomery Ward and Company, out of his office at the behest of some racketeers who were irked by Mr. Avery's refusal to let them participate in the management of his company.

The reading matter of this advertisement went on to say, "Today, in America, there is an organized movement to destroy *all* Unions. This movement has taken the form of clever propaganda, divide and conquer techniques, and all the evil insidious schemes necessary to sell the people against the right of a working man to organize for common protection."

IT HAS BEEN a long time since we have heard of any serious opposition to labor unions as such. The opposition is to unionism as represented by the United Steel Workers of America and other labor monopolies which have obtained and maintained a complete stranglehold on huge industries supplying necessities to the people of the United States.

There is a war on against this kind of labor monopoly, and the war did not start nearly soon enough, nor has it been prosecuted with nearly enough vigor. This advertisement goes on to say, "Who is behind this Smoke Screen? Is it the National Association of Manufacturers? . . . or the U. S. Chamber of Commerce? If so, what are their ultimate aims? This is something for every American to think about."

It certainly is something for every American to think about, and Americans have been doing a good deal of serious thinking recently. The National Association of Manufacturers and the U. S. Chamber of Commerce have plenty of company in any war that they may have declared against these over-sized labor monopolies which have become Big Business in the most offensive sense of the term.

The United Steel Workers of America by maintaining an absolute monopoly of labor in practically all of America's steel plants has been able to gouge the people of the United States for much higher wages and more lavish fringe benefits than could ever have been obtained except through monopoly pressures, and every American has to dig down in his pocket to help pay these exactions. If the steel workers were the only working men who were doing this to the general public, the damage would be slight, but what one labor racket has accomplished, another one must endeavor to equal or surpass if the people who run it ex-

when iron dulls dyestuffs... switch to WESTVACO® CAUSTIC!

Dull shades, discolored goods and soap spots signal the need for more-stringent-than normal efforts to eliminate iron and other contamination.

That's a good time to try Westvaco Caustic.

With our multimillion-dollar plant modernization now complete, Westvaco quality is better than ever! Produced in new, automatically controlled cells, handled through nickel pipes and lined storage tanks, your caustic is "polish-filtered" just prior to shipment.

Westvaco Caustic is low in iron and salts . . . has good color in all grades, crystal clarity in liquid grades.

You will be pleased to learn just how quickly delivery is made from our strategically located South Charleston, West Virginia plant.

Matter of fact, why wait until trouble arises? It's a good time to try Westvaco Caustic right now!

CAUSTIC SODA: Liquid 73%; Liquid 50%, Regular and Low-Chloride Grades; Flake, Solid and Ground.

CAUSTIC POTASH: 45% and 50% Liquid; Flake and Solid.

fmc
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Putting Ideas to Work

FOOD MACHINERY AND CHEMICAL CORPORATION
Westvaco Chlor-Alkali Division
General Sales Offices:
161 E. 42nd STREET, NEW YORK 17

pect to hold their jobs, and so we enter the endless rat race of higher and higher wages, and higher and higher prices, and higher and higher taxes to get money enough for the government to pay the higher prices caused by higher wages.

Down in the bottom right-hand corner of this advertisement was a picture of an engaging young lady pushing a super-market basket full of groceries, and the caption, "The more you EARN, the more you BUY!" This brings to mind the fact that the more you get that you don't earn, the less somebody else can buy, and everybody's buying power is diminished when millions of workers in monopoly-controlled industries get far in excess of what they could get in a normally competitive economy. Others buy less that they may buy more.

THE PRESENCE of an advertisement like this in an Atlanta paper suggests that the same advertisement was probably published in many other large city papers, and only Big Business can afford to spend money like that for propaganda. The revelations which have been made during the past year of what the big labor monopolies are doing to the American people have doubtless stirred an uneasiness in the managements of these monopolies.

As we have repeatedly emphasized, labor unionism as represented by these big monopolies is simply legalized robbery. Of course, robbery always benefits the people who are allowed to practice it, and surely few persons who are the beneficiaries of the exactions of these powerful unions will complain about getting the loot.

The dictionary defines the word *rob* as, "To take something away from by force." The legal definition of *rob* is shown as, "To take personal property in the possession of another from his person or his premises feloniously and against his will by violence or by putting him in fear."

These descriptions very accurately mirror the workings of a labor monopoly which we have constantly referred to as a racket. The dictionary defines *racket* as, "A system of obtaining money or other advantage fraudulently or undeservedly; usually with the outward consent of the victims." That is a peculiarly happy and appropriate description of labor union activities. The victim by means of threats of business disaster is compelled to give up something unwillingly and at the same time sign a contract agreeing to the robbery. The law makes him sign the contract and the labor monopoly forces the agreement to its terms.

> **" . . . there is no war on unions in progress; there is only war on labor rackets. And upon the successful outcome of that war rests our hope for continued freedom in the United States. . . "**

The typical labor monopoly demand for what is to be currently exacted from an employer is nothing but blackmail, which is defined by the dictionary as, "Payment of money exacted by means of intimidation." The dictionary further explains the original meaning of blackmail as, "A tribute of money, corn, cattle, or other things anciently exacted in the North of England and South of Scotland by freebooting chiefs for protection from pillage." This is an extraordinarily felicitous description of present labor union practice. The employer either pays the blackmail or is so grievously damaged that he wishes he had.

THE DICTIONARY goes on to state that payment or receipt of this blackmail was made a felony in the Reign of Queen Elizabeth in the year of 1601. History has now come full circle with relation to the blackmail business, and we are right back where the Border Counties in England and Scotland were 400 years ago, when freebooting chiefs decided on their own demands from the helpless general public, and with help from the law enforced these demands.

Such war on unions as may now be in progress or further declared is against these freebooting chiefs and the organizations they head. The aims of any such war must be to cut unions down to size and make them amenable to the same laws that govern the rest of us. There is a crying need to de-louse these big monopolistic rackets and deprive them of the terrifying power they now possess.

Unless the American people generally get behind this war and prosecute it to a successful conclusion, the dimly outlined figure of the storm trooper in the Steel Workers' advertisement can become a grim reality. The power to destroy unions leads to dictatorship by one group, and the power of unions to have their own way regardless of the public welfare or other people's rights can lead to dictatorship by another group.

What we need in America is a free competitive economy. That system made this country, and only that system can keep it strong and healthy. No reasonable person wishes to destroy unions, provided they are honest, law-abiding organizations which observe the common law which governs all of the rest of us and do not insist on special laws permitting them to commit acts which are crimes when committed by any organizations except unions.

THE HEADS of many of these big labor rackets try to make it appear that their outfits are responsible, decent organizations, but the appalling fact remains that if they are, this is by choice and not by law. Any union, according to the laws, can readily become just as corrupt as any other union, because a labor union is virtually a legally irresponsible organization.

It is practically impossible to hold a union management accountable for anything it wants to do. Once in a great while someone is able to bring one of these big rackets to account, but these instances are so few that they merely emphasize the gravity of the problem. Years ago the Supreme Court of the United States solemnly held that Congress had legalized highway robbery if it was practiced by a union, and the conduct of our union affairs has been very

largely pitched on that level ever since.

ON SUNDAY, October 12, 1958, the people of Atlanta, Georgia, were horrified to hear that the Jewish Temple had been bombed and seriously damaged that morning. For the first time within our memory, the entire front page of the *Atlanta Constitution*, with the exception of the table of contents, the weather, and a one-inch insertion about a completely inconsequential matter, was given up to one subject.

All of the forces of law were called into immediate action and within a week people were in jail, charged with this dreadful offence against law and decency. Several years ago in this same city during a telephone strike, a good deal of telephone company property was similarly bombed, but these bombings attracted a minimum of attention, because, unhappily, the American public has become conditioned to the use of dynamite in labor disputes.

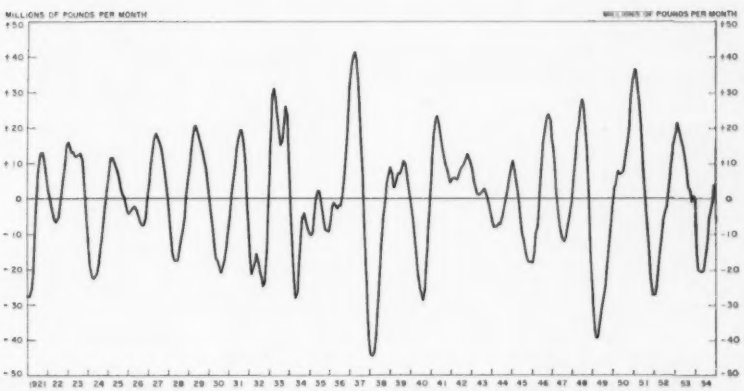
Maybe in time we can become conditioned to the bombing of our churches, for it is exactly the same spirit that leads to such violence directed against any person or organization. Homes have been bombed in strikes. It hardly seems worse to bomb an empty church because you do not agree with its teachings, than to blow up an occupied house because the occupants disagree with labor union policies.

There are cities in the United States where if a contractor dared to do any work on a church with unorganized labor, he could reasonably *expect* to have the building bombed. It seems to us that there is no war on unions in progress; there is only war on labor rackets. And upon the successful outcome of that war rests our hope for continued freedom.

Textile ups and downs follow two-year cycle

■ THE TRIALS and tribulations of the textile industry are sometimes attributed to the whims of consumer buying, but this theory is not supported by the evidence, says the Business and Defense Services Administration, U. S. Department of Commerce, in a recently issued report, "Cycles and Trends in Textiles."

On the contrary, according to the report, the textile cycle arises within the organization of the industry, somewhere between the mill and the ultimate consumer and most probably at the retail level. The conclusion is drawn that the causes of textile booms and busts are psychological and are emphasized by the mass communications that exist in the trade.



The textile cycle: Difference between 12- and 24-month moving averages of apparel-type fiber consumption, 1921-1954.

Textile men have claimed for a long time, without statistical proof, that there is a "textile cycle," that is, a fluctuation which takes place only in textiles and is somehow added to the more general variations of the business cycle. The Commerce Department study claims to demonstrate clearly the existence of a 2-year textile cycle, reflected in mill consumption of apparel-type fibers.

The textile cycle has been analyzed from 1921 to 1957, and with one exception has been found to have a fairly regular 2-year course of peaks and troughs, disappearing only in time of war or of controls on production and distribution. The exception was 1955-56, when for reasons not yet determined the cycle was broken.

The exact reasons for the textile cycle are uncertain, but the report concludes that it seemingly is caused by alternating waves of optimism and pessimism as the yearly buying seasons for retail stores succeed each other.

For many items, the retailer has only one buying season a year. His decisions during that season are influenced by the general psychology of the trade. If too much merchandise was bought in one year, there is likely to be a feeling of caution and pessimism the next year. On the other hand, if stores had difficulties in meeting customers' wants because of inadequate stocks, there is likely to be over-compensation the following year. Thus the 2-year cycle is established.

The study points out that textile activity clearly depends on general business and industrial activity, and that a smaller but still considerable part of fiber consumption is determined by consumer expectations regarding their future incomes.

Changes in the relative amounts of exports and imports of textile products were found to have an effect on mill activity; but changes in fiber prices do not cause much change in fiber consumption, even though there may be shifts in the relative amounts of each used. Similarly, the price of textiles relative to other consumer products seems to have no major influence.

Consumer expectations of price changes and wardrobes accumulated in the past also seem to have no part in the picture. And while the trend to lighter clothing might have been expected to bring a decrease in volume of fiber consumed, it has not brought that result, since wardrobes are more extensive than in the past.

Apparel wool supply deemed too low

by Ruth Jackendoff
The Wool Bureau, Inc.

■ IN THE United States, total available apparel wool supplies on January 1, 1959, including trade stocks, stocks in bonded warehouses, and grower supplies, were estimated at 86 million pounds, clean basis, compared with 130 million on January 1, 1958. With the trend of consumption rising since January 1958 and total supplies somewhat lower, a moderate rise above 1958 mill consumption would require a substantial increase in imports.

If 1959 mill consumption of apparel wool should rise to the 1957 level of 241 million pounds, it would require all the 86 million pounds available on January 1, plus the new clip of about 130 million, and about 25 million of imports just to maintain operations.

As at least a four-month inventory is a minimum requirement, a total of about 105 million pounds would have to be imported under this hypothesis, or about 70% more than estimated imports for 1958. Such imports would be equivalent to about 210 million pounds on a greasy basis.

Carpet Wool. Carpet wool consumption in the United States has been rising faster than apparel wool and, on the average over a period of years, imports have to be made at a rate to meet consumption requirements. Toward the end of 1958, imports suddenly surged as the carpet industry prepared to meet rising consumer demand. Assuming a hypothetical consumption in 1959 equal to the 128 million pounds of 1957, imports should be at least that much. The greasy equivalent would be around 180 million pounds.

Thus, the United States could easily be a potential customer in 1959 for 390 million pounds, greasy, of foreign wool. Since 75% of its imports came from the five major suppliers during the January-September 1958 period, the higher 1959 potential should make some contribution toward reducing their surplus supplies.

It is impractical to make assumptions for the rest of the world similar to the one made for the United States. World wool consumption in 1957 represented a postwar peak in contrast to the United States where 1957 consumption represented a relatively low rate. However, a reasonable assumption of a 5% recovery from the 1958 estimate of world wool consumption would mean at least 2,857 million pounds, clean. This would be slightly below the 1956 world rate of consumption of 2,862 million pounds of wool.

Says import quotas and one-price cotton won't come without struggle

■ WHILE the case for United States quotas on textile and apparel imports from all countries and for elimination of the two-priced cotton system has been strongly established as a consequence of the report of the Senate Sub-Committee headed by Senator John O. Pastore of Rhode Island, it is folly to assume that these changes in government policy and practice will come without further struggle in high places in Washington, W. Ray Bell, president of The Association of Cotton Textile Merchants, declared recently.

Until these recommendations are made effective, he told the annual meeting of the Association, these inequities and discriminations will continue to hamper the road to recovery on which the textile industry entered last summer after two years of declining markets and mill activity and the liquidation since 1956 of 1,530,000 spindles. Market gains since recorded, he noted, had come only as the result of the most stringent self-discipline in the industry's post-war history. The balancing of production with demand has stimulated forward buying activity and more reasonable price levels, but without any aspects of boom excesses.

Referring to the Pastore Committee report, Mr. Bell held its quota recommendation a logical and valid extension of the formula provided in the 1957 arrangements with Japan. Principal difference would be a "positive action by the United States, applicable to all nations seeking our markets, and avoiding the present embarrassment of our government departments in pleading with the Colony of Hong Kong to control its precipitous and alarming increase in shipments of apparel to this country."

He cited data just received from Hong Kong showing "a value increase in cotton apparel exports to the United States from $670,000 in 1956 to $5,721,000 in 1957 and now $17,600,000 in 1958. The 1958 volume includes 692,000 dozen shirts in contrast with the Japanese quota of 1,050,000 dozen, and 569,000 dozen brassieres versus 600,000 dozen as Japan's allotment. Cotton blouses from Hong Kong were 788,000 dozen, or about half the Japanese quota.

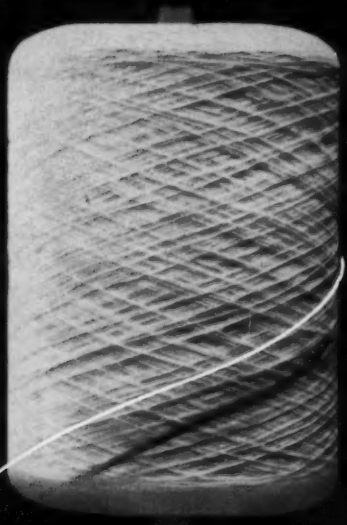
"With no quantity limitation on the Hong Kong opportunists who are essentially a front for Red China, how much longer can we expect to preserve the orderly and friendly trade relations which were the basic spirit of our Japanese quota arrangements?" he asked.

"Even now, after only two years of the contract, the Japanese are becoming restless and dissatisfied at the refusal of further concessions in areas already subject to the greatest concentration. Particularly, they want more ginghams, more fine goods, and larger quantities of apparel where their extremely low labor costs can be pyramided through three manufacturing processes. While concessions to Japan are unlikely to be made for 1959, an explanation of the favoritism to Hong Kong in unrestricted expansion is bound to be difficult."

Mr. Bell noted that Red China is creeping in and furnishes to Hong Kong cloth about equal in quantity to Japan, which is exporting 100 million square yards yearly to this colony. China recently has been gaining on Japan in this market. He stated that the rise of local textile industries in the Philippines, Korea, Taiwan, and elsewhere was leading toward competitive problems with Red China, and that "further delay in setting over-all limits to textile and apparel imports into the United States will invite serious complications and further destruction of important elements in our textile economy."

Mr. Bell cited the continued sale of American cotton abroad at prices cheaper than those at home as the most obvious of discriminatory practices of the Government, the correction of which had been recommended by the Pastore Committee. Nevertheless, he noted that a Department of Agriculture program had just been announced increasing to 8 cents a pound the subsidy on cotton sold abroad effective Aug. 1.

GDC DYES THAT SIMPLIFY COLORING OF SYNTHETICS



Genacryl

Cationic dyes for acrylics.

Genacryl dyes are modified basic dyes characterized by exceptional brightness, good to very good light fastness in full shades and very good washing fastness. They produce especially bright and fast colors on Orlon* and Acrilan† at low cost.

Celliton

Disperse dyes for all synthetic fibers.

Celliton dyes are the most versatile and practical for fast shades on acetate, triacetate, and polyester fibers. On acrylic fibers, they produce light shades of excellent wash and light fastness. On nylon, they produce clear, level, fast shades, free of barré.

From Research to Reality

Genacron

Disperse dyes for polyester fibers.

Genacron dyes are a specially standardized range of dispersed dyes for application on polyester fibers. They produce heavy shades which are fast to light, sublimation and washing. They have minimum staining effect on wool or cotton and are non tarring.

Supralan

Premetalized acid dyes for acrylics and blends with wool.

Supralan dyes build up well into full, level, fast shades at low cost on nylon and acrylics and blends with wool. Neutral dyeing, Supralan dyes minimize fiber damage and shorten processing time.

GDC continues to keep pace with the expanding synthetic fiber industry by developing modern dyes and application techniques. Call on GDC for assistance with any dyeing problems.

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HOW OTHERS MANAGE

Maintaining the warper stop motion—a reply

THE EDITORS:

With reference to the stop motion troubles that CONTRIBUTOR No. 1111 (TI, Feb. 1959, p. 175) is having with the mercury switch stop motion in his warper creel, I should like to make the following suggestions.

First, I should be able to make better and more reliable recommendations if the type of warping machine and of creel had been given. Quite often a number of such difficulties can be better investigated by having information, not only about the type of machine and creel used, but also about the type of yarns processed, including count or denier, strength, atmospheric conditions, etc.

But still I think that there are general rules that apply to this particular problem; and CONTRIBUTOR No. 1111 will, most probably, be able to compare them with his present method.

Fly and dust are definitely two things which might influence the correct and efficient operation of mercury stop motions, should these be excessive in the atmosphere surrounding the machine. As a matter of fact, the interference of fly and dust is the only drawback of this system, in comparison to other systems.

First, careful observation should be made to find the exact location of the units that most frequently fail to operate. This can be done by numbering them and marking the frequency of failures in each unit until the trouble spot is located. After this is known, check very critically all electric connections and circuits, making sure that they are properly installed and held in position.

Check the mercury level to see if it is sufficiently high to permit a clean contact when the wire falls into it. See if the wire, which is suspended from the yarn above the level of the mercury, falls vertically into the mercury and makes the necessary contact for operating the stop motion.

Is the weight of the wires adjusted every time different counts or deniers of yarns are warped? This point should be studied when the count or denier is changed considerably. Often, too-heavy yarn does not allow a lightly constructed wire to fall into the mercury when an end breaks.

Furthermore, check the tensioning devices, for very often—

It's later than you think . . . Kink Contest Closes April 15 . . . Winner gets $100

Every kink, short-cut, time-saver, or quality improvement suggestion entered in the contest will be paid for immediately upon acceptance, and the $100 award will be made to the winner as soon as all entries are judged.

The contest rules are simple:

► All contributions must be postmarked not later than midnight, April 15, 1959.

► No limit to the number of entries an individual may submit in any one contest.

► All entries paid for upon acceptance — no waiting. Extra payment for photographs that are usable. Extra consideration is also given kinks accompanied by legible pencil sketches or drawings.

► Entries must not have been published previously and must not be submitted to any other publication.

► Send your contest entry to: The Editors, TEXTILE INDUSTRIES, 806 Peachtree St., N. E., Atlanta 8, Georgia.

Investigate Ideal's Liberal Trade-In Allowance on Your Old Drawing Frames

At a very substantial reduction in cost, Ideal will rebuild your drawing frames new, or will furnish you with completely factory rebuilt drawing in either 16" or 18" gauge four delivery frames with the famous Feathertouch action. These are *not* mill changeovers. Every working part above can table is brand new and the drawing is equal in appearance, performance, production, efficiency and quality to *any* completely new drawing on the market. These complete frames are delivered to your mill ready to run, thus eliminating downtime, and inconvenience of rebuilding in your mill. Don't buy *any* drawing until you have investigated this money saving offer. Write, call, or wire for complete information today.

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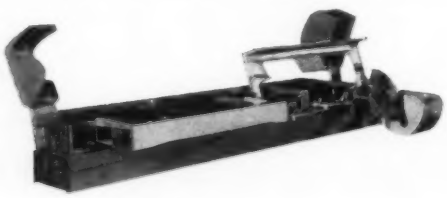
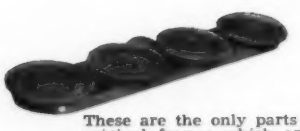




These are the only parts of the original frames which are used and they are completely reconditioned and refinished. You get the complete IDEAL frame as shown above at left, ready to run upon arrival at your mill.

Ideal Industries, Inc.
Bessemer City, N. C.

unless carefully controlled — some get dirty and rusty and prevent the free suspension of the yarn, especially in the first few vertical rows which are located near the stop motion. If possible, ensure that all the contact parts of the stop motion, including the mercury pot, are enclosed to render them immune to dirt and fly. Attention and care must be taken to keep stop motions in good trim, otherwise their sole object will be defeated.

If there is much fly and dust and there is difficulty in keeping the motion clean, this could definitely be connected with the trouble. If permissible, increase the relative humidity in the area as much as possible, of course taking always into consideration the effect of this change on other factors. This will keep the fly and dust on the floor.

An alternative to this is to keep the floor moist. Finally, place two air fans on the creel at a position near the stop motion, arranging the angle and force of flow of the air to be such that they will keep the motion clean and without causing any additional interference with the job.

CONTRIBUTOR No. 1128
(Canada)

System to speed complicated designing

THE EDITORS:

When a fabric with a large pattern repeat is to be woven, either by dobby or Jacquard mechanism, the preparation of the working design involves a considerable amount of time and effort. The artist's sketch design is expanded and transferred as an outline onto design or point paper, and this is followed by the laborious hand insertion of the various binding weaves so the pattern chain, in the case of a dobby, or the set of cards for the Jacquard, can be prepared.

Depending upon the size of the design, and the type and number of basic weaves employed, this involves hours and often days of work in painting in the rectangles which represent the lifting of particular warp threads over particular filling picks.

With the assistance of a specially printed adhesive paper*, much of this work can be eliminated, and new designs can be prepared in a fraction of the time formerly needed. In addition, there is a saving in paint and brushes, less eye-strain for the design-room staff, and more uniform working plan to simplify the work of the card cutter. There are two possible methods:

Method A: The artist's sketch design is expanded and drawn as an outline in India ink onto white paper, as in Fig. 1. Assuming the ground weave is to be plain, a specially printed paper or film, with alternate squares transparent and black (or colored), is laid over the whole repeat and gently smoothed flat. With the point of a needle, the figure outline (which is clearly visible) is traced onto the figured film.

For some patterns it is very simple to step the outline of curved figures at the time of tracing. In other cases it is better to follow the outline on the paper and then modify the figure edges by hand at a later stage.

Once the outline is traced, the

*Name furnished on request to the editors.

Figure 1

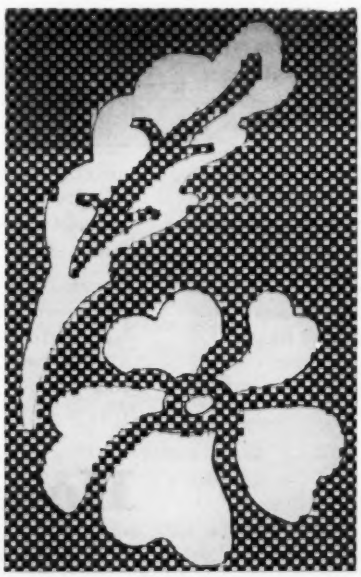


Figure 2

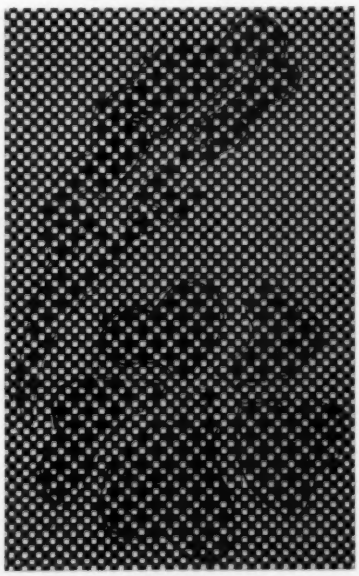
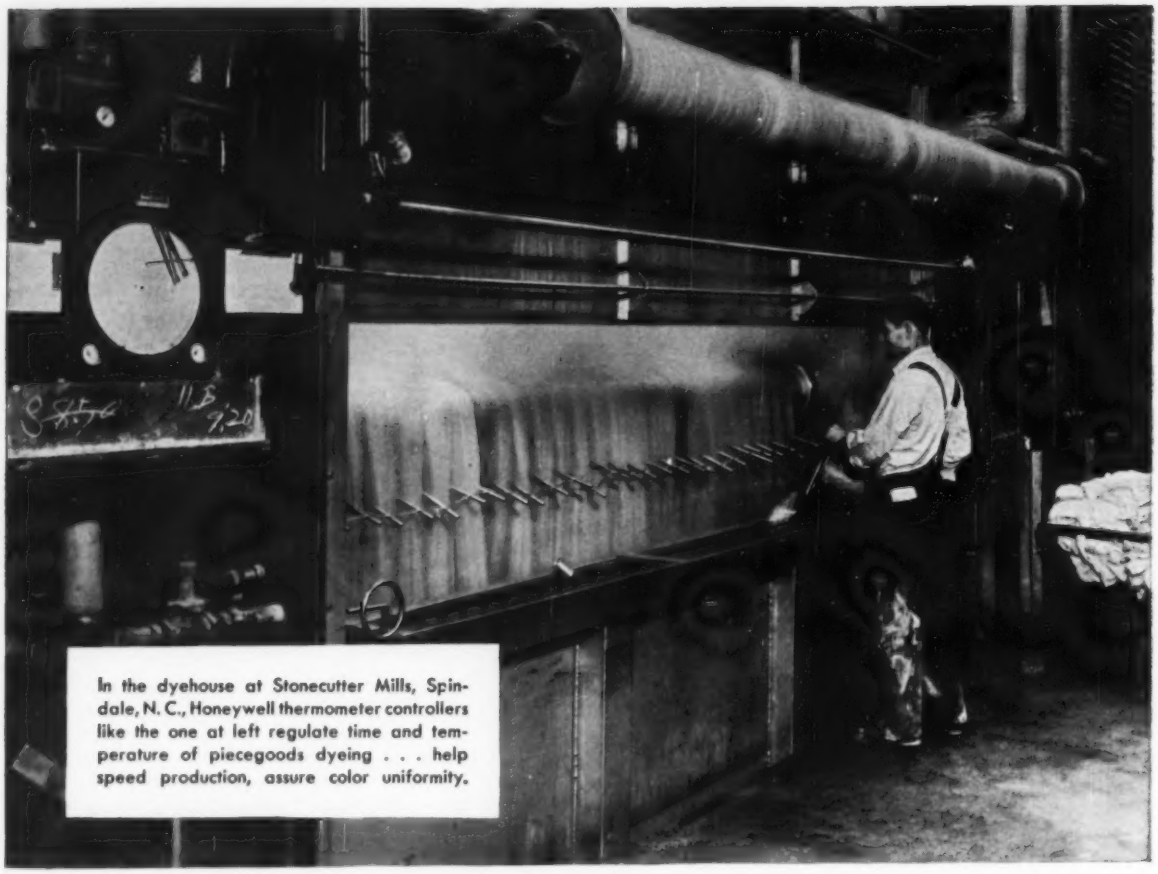


Figure 3



In the dyehouse at Stonecutter Mills, Spindale, N. C., Honeywell thermometer controllers like the one at left regulate time and temperature of piecegoods dyeing . . . help speed production, assure color uniformity.

Honeywell controls allow quick changeover in dyeing, keep quality high at *Stonecutter*

Stonecutter Mills dyes a variety of fibers . . . including nylon, Dacron, Orlon and acetates . . . in a variety of forms, *often all in a single day*. Dyehouse workers have to be skilled in quick changeovers . . . and their dyeing controls must be both accurate and flexible, for each fabric calls for a different dye, a different temperature, a different time cycle.

Though dyeing temperatures range from 130° to 212° F . . . and must be accurately held for cycles of 8 hours and longer . . . Honeywell dye control systems consistently assure production of top-quality dyed goods.

In your own mill, to increase efficiency, reduce costs and guard quality . . . to modernize a single process or an entire mill . . . call on Honeywell for complete, specialized textile instrumentation. From opening room to cloth room, Honeywell systems give you dependable, flexible control of temperature, pressure, humidity, regain, dew point and other variables.

For valuable help in matching controls to equipment, efficiently and economically, call on Honeywell at the planning stage. A Honeywell field engineer is as near as your phone. MINNEAPOLIS-HONEYWELL, Wayne and Windrim Aves., Phila. 44, Pa.

Honeywell

H HONEYWELL *First in Control*

point of the needle is placed underneath the portion not required (in this case, that corresponding to the figured area) and the superfluous pieces peeled away. The remaining paper is now pressed flat and smoothed down onto the base sheet to which it readily adheres. Fig. 2 shows the plain weave ground in position.

The next step is to insert the required weave or weaves in the figured portion. This is shown in Fig. 3 in which a crepe type of weave has been chosen for figure binding. The same procedure is adopted as for ground, taking care to line up the vertical and horizontal rows of marks with the ground marks.

This is comparatively simple due to the precision with which the figured sheets are printed and the ease with which they can be handled. The design paper work is now complete and the set of cards can be prepared from it in the normal manner.

Method B: The figure is painted in solid black on white paper (see Fig. 4) and a sheet of the negative type is used. This consists of rectangles printed in white on a transparent skin, the resulting transparent rectangles representing the weave required. This is laid onto the figure as before, but since the ground is white, outline tracing and peeling away are unnecessary and the figure is brought up in the required weave with the ground still remaining white, as in Fig. 5.

The ground weave can then be inserted but, of course, outline tracing is then required. An alternative is to use black paper and paint the figure in solid white, in which case, the ground weave is produced without the necessity for figure outline tracing. The choice of black on white or white on black depends upon the ratio of ground area to figure area. With certain combinations of designs and weaves (e.g. a large proportion of ground with small figure effects) it is a simple matter to paint the figures solid white on black paper, to use paper of the negative type for ground weave development and to insert by hand the necessary binding weaves in the small figured areas.

Figure 4

Figure 5

If touching up around the edges of the figure is considered necessary, as for example when using Method B, a rectangle may only be partially filled with color. Then this is very simply completed by pen or brush, either by filling in or painting out.

CONTRIBUTOR NO. 1117
(England)

(Suspecting this article would be a topic of debate, we sent the original article to a number of men experienced in the field of fabric design to get a measure of their reactions, and one of the replies is printed below. But we do not consider the issue closed. If you have other ideas on the subject, send them to us. — The Editors)

HOW OTHERS MANAGE

THE EDITORS:

CONTRIBUTOR NO. 1117 is quite correct in stating that the insertion of the weaves in large Jacquard designs can be a time-consuming, laborious, and costly operation. There are, however, several well-known methods by which this work can be reduced, simplified, and, in many cases, eliminated altogether. I, myself, have dealt with several of these methods, in previous articles* kinks, etc., published in TEXTILE INDUSTRIES. Among the methods used may be mentioned the following:

Pre-printed Design Paper. There are available many varieties of paper on which standard weaves such as plain weave, twills, satins, etc., have already been printed. The figure motifs of the Jacquard pattern are painted over these printed weaves with any slight adjustments that may be necessary around the edges being inserted by the designer.

These printed weave papers remove any necessity for painting in the weaves on the ground of the design. Printed weave papers, in those cases where they can be used, offer probably the simplest and easiest method of designing large expanses of standard weaves.

Outlining the Weave Around the Figures. When pre-printed weaves are not available it is often possible to make the design by merely painting in a portion of the weave around the edges of the figures. A competent card-cutter can readily follow the weave across the design and cut same on the card with only the start and

*"Take the Hard Work out of Jacquard Design" (July, 1955, p. 94); "Increase Jacquard Capacity" (Dec., 1956, p. 104); "Technique of Jacquard Designing" (June 1958, p. 159).

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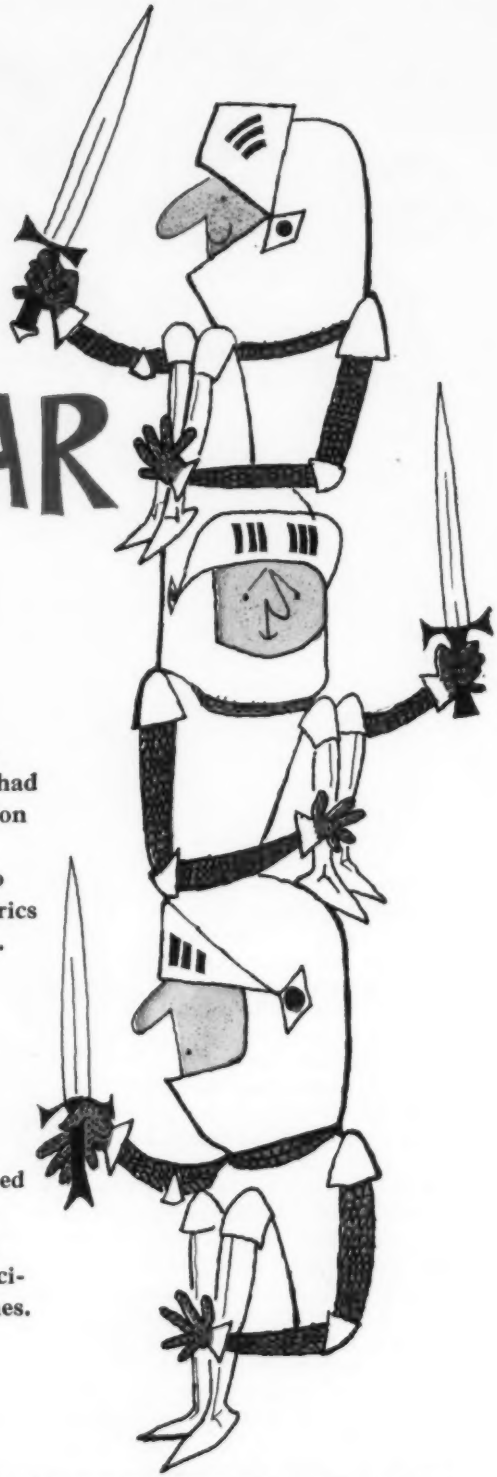

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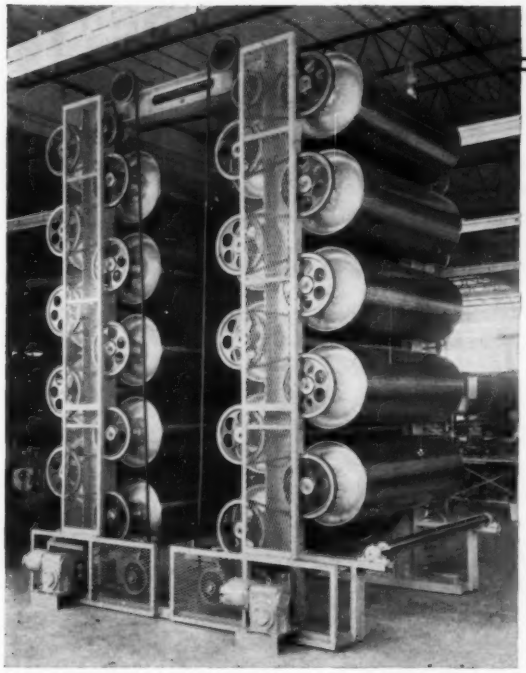

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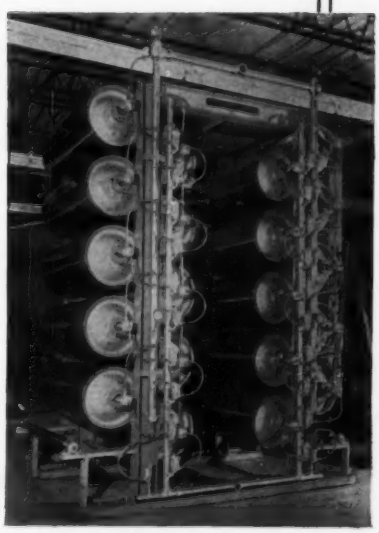

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finish of the weave being painted on the design.

Cutting the Card from Weave Slips. This really is an extension of the method just outlined. Each weave effect is indicated on the design in a different color of paint. A slip of design paper containing one exact repeat of the weave is supplied to the card-cutter for each weave required by the design. These weave slips are numbered and the card-cutting instructions read somewhat as follows: Cut Weave #1 on red, Weave #2 on blue, Weave #3 on paper, etc.

Stencilling the Weaves. A method used by some designers is to have stencils of standard weaves for various sizes of design paper. These stencils are made of thin celluloid. Using a stiff stencil brush the weave can be readily stencilled on the design in the portions where it is desired. A measure of proficiency is required to do this type of work but it seems to me that this method, while somewhat similar to the process presented by CONTRIBUTOR No. 1117, is simpler, quicker, and lower in cost as well as probably more accurate and less liable to error in misplacing the weaves on the design paper.

The Copy-Desk. When intricate weaves, crepe weaves, and similar weaves are to be inserted in large expanses of design paper, many designers make use of a copy desk. This desk has a glass top under which an electric light is placed, and by placing a sheet of design paper over another sheet on which a weave has already been designed, the weave will show through to the top sheet and thus can readily be inserted there. A complete repeat of the weave desired is made on a small piece of design paper of the same kind as to be used for the design to be made. This small piece is glued to the top of the desk, the design is placed over it and positioned as required. This offers a simple and quick way to insert without errors a large number of repeats of the weave in the design itself.

In view of these methods already in use for the simplification of designing it appears to me that the proposed process would be an unnecessarily elaborate and expensive way of obtaining the same results. Also there seems to be a considerable chance of error in this method, for if the prepared weave is not exactly fitted to the squares of the design paper, but is inserted even slightly "off-center," the card-cutter would find it very difficult, if not impossible, to cut the weave correctly on the card.

I was not personally acquainted with the proposed process and have never seen it used by a Jacquard designer, so I was very much interested in the opportunity of looking into it. However in my opinion it does not offer any advantage over the methods already in use but rather would add expenses and complexities that are not necessary to the designing of large Jacquard designs.

OSBERT HUGHES

HOW OTHERS MANAGE

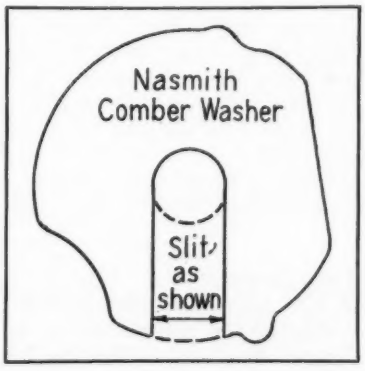
Slot speeds comber washer replacement

THE EDITORS:

On the Nasmith comber, also the Nasmith-type Whitin Model E comber, there are 12 washers that fit around the half lap shaft to hold the waste chute boxes and lids on the comber. Occasionally these washers break, especially the small part that protrudes to the rear and which has a hole that the lid hinge fits into.

These washers have two holes tapped and threaded for 3/16" screws that hold the chute boxes in place. On plate 11, Whitin Nasmith Model E repair part catalog, these washers are pictured as made of cast iron. Pattern Nos. are N5-272 RH and N5-272 LH. When these washers have to be replaced the half laps (6) must be removed and then the half lap shaft must be removed, involving several hours of work.

But we have overcome this work by slitting a part of the washers out and fitting them around the half lap shaft, thereby eliminating the extra long period required for removing the half laps and the half lap shaft and getting the comber back in operation very quickly. The slotted washer does not hinder nor does it cause inferior work.

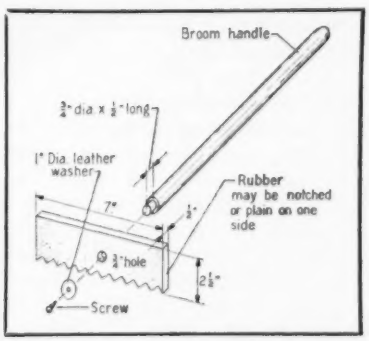


CONTRIBUTOR No. 1082

Card-cleaning hoe

THE EDITORS:

In the June, 1958, TEXTILE INDUSTRIES I read the article by CONTRIBUTOR No. 1014 asking for information about a method of cleaning under cards without danger of damaging the clothing.



I am enclosing a sketch of the type of hoe that can be made quite easily in any mill. We have been using this method of cleaning for some time, and it has worked very well.

CONTRIBUTOR No. 1043

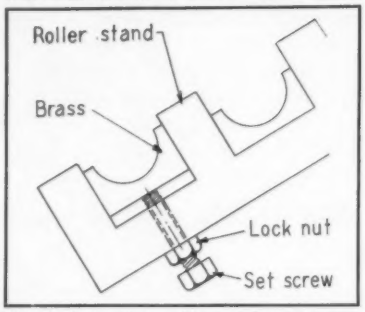
Make roller stand brasses adjustable

THE EDITORS:

We find that the wear and tear on the brasses in the roller stands in our ring and fly frames is uneven, although the brasses apparently work under identical conditions. This is clearly seen when the frames are stopped for cleaning and the top rollers are taken out. Or by tapping on the rollers as they rest in the stands one can hear a metallic click as a roller is tapped over a stand holding an overly worn brass.

Changing brasses requires time and costs money. However, if the worn pieces are not replaced roller wear increases, with the roller necks wearing "flat" in one or more places. This lowers yarn quality.

This trouble may be avoided by modifying the roller stand (see illustration) to permit adjustment of the individual brasses. Screws are



fitted into the roll stands and are run in or out as the brasses need raising or lowering. Lock nuts hold the screw settings.

CONTRIBUTOR No. 1101
(India)

How to remove resin from tenter clips

THE EDITORS:

In reference to the question "How Do You Remove Resin From Tenter Clips," submitted by CONTRIBUTOR No. 1109 in the February, 1959, issue, I have this to say: . . . We were faced with a similar problem as a result of curing foam-rubber-coated sheetings on pin type tenters. Over a period of a very few months the pins accumulated a baked-on coating of rock hard material. Brushing or chemical cleaning had no effect whatever on this deposit, and we found it was necessary to use good, old-fashioned hammers and chisels in the hands of six employees on each of three eight-hour shifts to clean up the gill plates.

This was usually done over a weekend at time and one-half labor rates with a resultant cleaning bill well over $500 for at least four cleanings per year. In an attempt to minimize, or even eliminate this cost, we purchased a pump with the capability of delivering a constant stream of water, at a rate of 20 gallons per minute and at pressures up to 600 psi, in a pencil-thin stream.

By clamping the nozzle of this unit onto the tenter structure in a position to direct the stream of water onto the tenter chain as it emerged from the hot oven, we effected a cleaning job far superior to that accomplished by hand chipping.

Total labor for this operation now consists of installing the nozzle, erecting splash guards, changing position to the second chain, and removing the unit. One man performs this entire chore in about three to four hours, and the results are far superior to that obtained by the original method and at only a fraction of the cost.

CONTRIBUTOR No. 1133

THE EDITORS:

The problem of cleaning tenter clips can be approached in two ways: they can either be kept clean or be cleaned after accumulations occur. In the first case, fixed brushes wipe each clip once on each pass. One such stationary brush is equipped with three rows of 0.014" crimped steel wire mounted so as to come to a point 3½" from the brush base.

The second method employs the use of wheel-type brushes positioned so that the wires enter the open clip. If necessary, the brush pressure can be used to open the clip, but this procedure is not recommended.

A TEXTILE SUPPLIER

Cleaning rub aprons . . . How do you do it?

THE EDITORS:

Could you supply me with any information as to the best or most recommended procedure used in washing and cleaning rub aprons on a wool card?

CONTRIBUTOR No. 1136

You have a mill problem?

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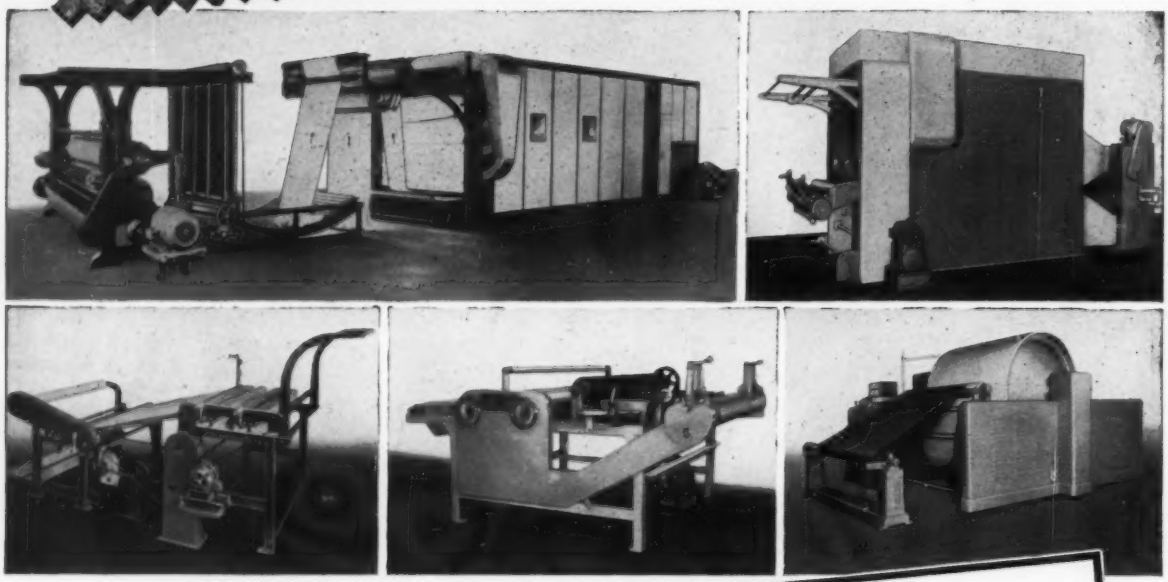

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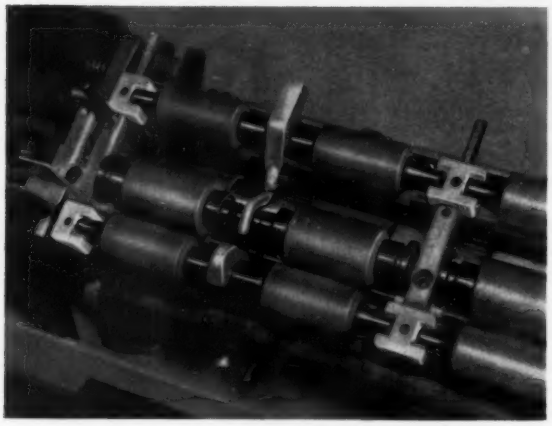


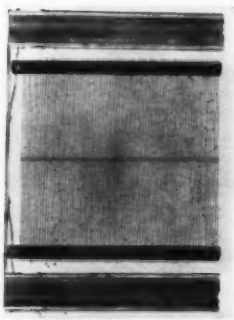
Nylon cap bar tips reduce wear, eliminate oiling

Replacement of standard cast cap bar tips with the new Saco-Lowell Nylon Cap Bar Tips provides the advantages of greatly reduced cap bar block wear (not only wear of the tip itself but also the top roll gudgeon), the elimination of oiling points, and easy cleaning. The parts are designed for application and easy installation on all existing frames.

Saco-Lowell Replacement Parts Div., Saco-Lowell Shops, P. O. Box 327, Greenville, S. C.

Do you want more data? Write ◂ or use card on page 189; list D-201

Harness frame is more stable, lasts longer



A premium grade laminated harness frame now available provides greater stability and longer, trouble-free life. Called the Duraweld harness frame, it is produced with permanently laminated strips of carefully selected, high-quality wood. By blending strips of varying grain structures and weights, weak spots and splintering are practically eliminated.

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Steel Heddle Mfg. Co., 2100 W. Allegheny Ave., Philadelphia, Pa.

Do you want more data? Write ◂ or use card on page 189; list D-202

Yarn tension ups speed 50% and maintains quality

A new tension unit based on a rotating cap with braking action applied by the hysteresis principle has been announced. In tests and field installations this design has shown substantial increases in production on most synthetic and natural yarns. Speed increases of 50% and higher can be expected without sacrificing yarn quality. The speed of the Electro Magnetic Whorl Tension is limited only by the operating capacity of associated machinery. Proper tension is maintained independently of speed.

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A minimum of experience is necessary since no weights or contact points need adjustment to vary the tension on the yarn; therefore supervisors and operators can handle this new unit without previous experience. Minimum maintenance is another advantage of this new tension unit. Under normal operating conditions, cleaning and oiling are required only every 2 to 4 years.

Allied Control Co., Inc., 2 East End Ave., New York 1, N. Y.

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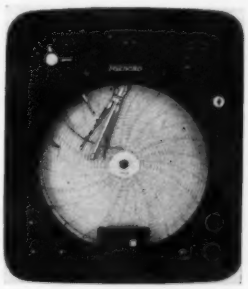
Automatic rinse new feature of dye kettle controller



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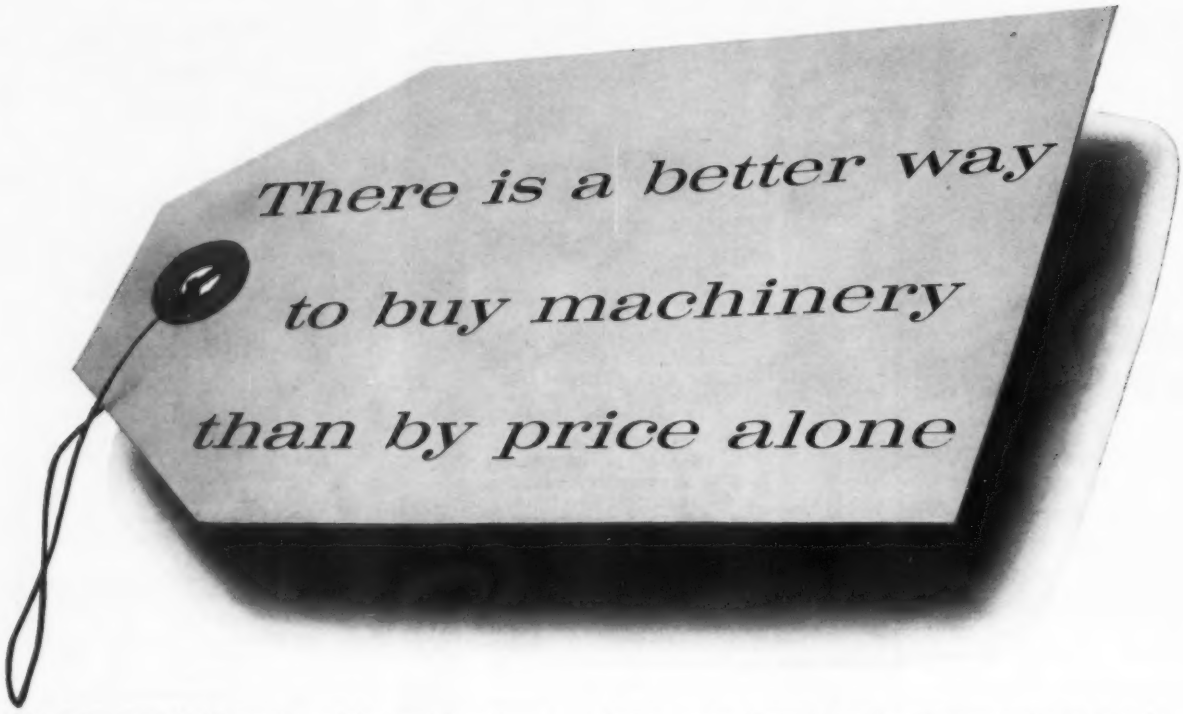


Mill management today must scrutinize machinery investments from the cost standpoint more closely than ever before. This is commendably good stewardship, but to a point...

The point is reached when consideration of initial cost overpowers all other factors relevant to the investment. The sad realization can occur all too soon, that equipment **bought** on a price basis might have been **built** on a price basis, too!

The machinery manufacturer who has built an **established reputation** in the field has as much at stake in his equipment's performance as you do yourself. He regards such factors as equipment downtime, interrupted schedules in your mill, and delays in parts replacement as destructive to his reputation as they are to your profits. And he engineers his equipment to minimize these factors!

Amazingly enough, this second big factor in machinery selection **often costs you nothing!** Records of Hunter Machinery purchases dating back over 112 years repeatedly justify the wisdom of mills that have permitted their decisions to be influenced by equipment costs, and **manufacturer's reputation,** in equal parts. They prove that there is no single component of any machine that offers such a potential for value and long-term profit to its owner as the experience and industrial reputation of its builder.

JAMES HUNTER

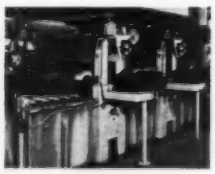
JAMES HUNTER MACHINE COMPANY • NORTH ADAMS, MASSACHUSETTS

Subsidiaries: *James Hunter, Incorporated, Greenville, S. C. • Hunter Fiber Machine Co., Los Angeles, California*
Thomas Leyland Co., Readville, Massachusetts • Hunter Controls, North Adams, Massachusetts

15-TON 3-ROLL PAD

CURING OVEN

UNIFLOW SINGLE PASS PIN TENTER



OPEN WIDTH COMPARTMENT WASHER

DYE KETTLE, MODEL S

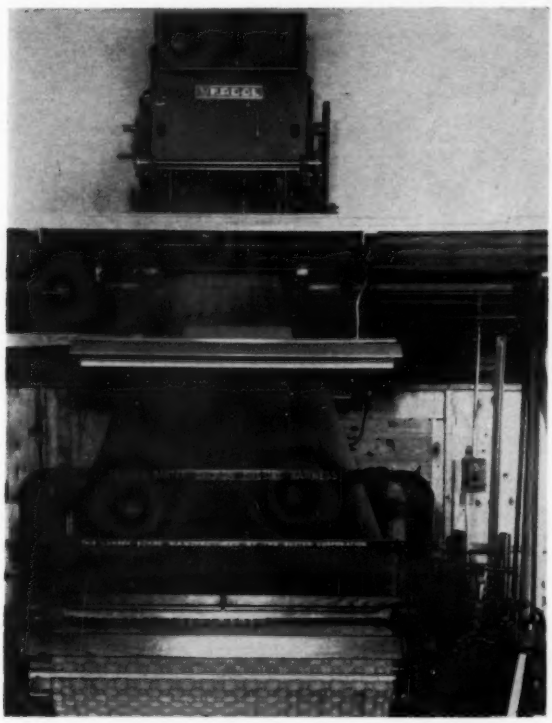
rinsing schedule: the starting temperature, the desired rate of temperature rise, the dyeing temperature, the holding time, the rate of cooling, and the rinse. The instrument controls the dyeing program by pneumatically operating steam, water, and rinse control valves at variable time and temperature values.

Vari-colored signal lights indicate each stage of the dyeing operation, and an easy-to-read 12-inch circular chart provides a permanent record of the cycle for quality control and future duplication of the dyeing schedule.

The Foxboro Co., Foxboro, Mass.

Do you want more data? Write ◂ or use card on page 189; list D-205

Paper-driven Jacquard features economical operation



Economical production of Jacquard fabrics at the speed of plain woven goods, operation by an endless paper chain that weighs much less than conventional cards and costs less to cut, and prevention of oil splashing on the cloth are advantages provided by the French-made Verdol Jacquard Machine which is now available through an agent in the United States.

The machine with only one cylinder, open shed, may be operated at speeds up to 190 rpm. There is 80 per cent less wear on the endless paper chain because the cylinder mechanism is fitted with a device to prevent damage to the paper roll. 10,000 cards for the Verdol machine weigh only 47 pounds and are 295 yards long, compared with 700 pounds and 940 yards for an equivalent number of conventional cards on a fine index machine. Machine is fully covered to protect parts from dust and lint.

Raising of the needle pusher grid is by cams and levers. The fixed cylinder is driven by a simple and smooth-running mechanism, swings out to facilitate changing of pattern cards, and is positively locked for safety of operation. The machine can run forwards or

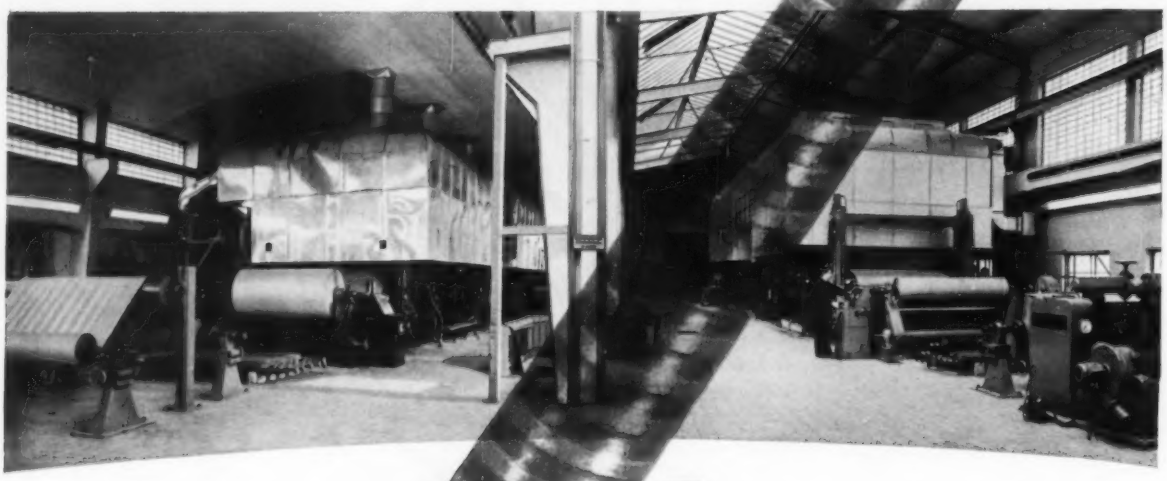
THAT'S THE KIND OF DELIVERY YOU GET ON CLOTH TUBES, YARN TUBES AND CARPET CORES WHEN YOU ORDER FROM:

TEXTILE PAPER PRODUCTS, INC.

HOME OFFICE: CEDARTOWN, GA.

PLANTS: Crossett, Ark.; Bogalusa, La.; Jacksonville, Fla.; Carlyle, Ill.

These huge paper machines ensure sufficient supplies of the basic material for our tubes, bobbins and pirns, in spite of the considerably increased production figures.



This gives you the assurance for the continuous, world-renowned reliability of our yarn carriers with regard to

- ✱ STABILITY
- ✱ DIMENSIONS
- ✱ WEIGHT

EMIL ADOLFF
REUTLINGEN WTTBG. GERMANY

USA Central Organization: **TEXTUBE CORPORATION** 695 Summer Street, Stamford, Conn.
Sub-Agents for the South: **WATSON and DESMOND** 220 West Fourth Street, Charlotte, N. C.
Sub-Agents for Canada: **CROWTHER LIMITED** 212 - 214 Victoria Avenue, Westmont, Montreal, P.Q.

backwards without damage. Shed may be quickly and easily adjusted by utilizing the seven positions which give from 2.7" to 5.1".

The Baxter Corp., 224 21st Ave., Paterson, N. J.

Do you want more data? Write ◂ or use card on page 189; list D-206

Winder guide lasts longer, improves tension control

Use of a new, all-ceramic wear plate on the Universal No. 44 Roto-Coner winder results in less guide wear and thus reduces yarn breakage and machine downtime. Mill tested with many abrasive yarns, including mohair, rabbit hair, alpaca, nylon, Dacron, and acetate, the single unit part has been used for more than two years on a three-shift basis without replacement.

Improved tension control is provided due to the part's low coefficient of friction which remains stable because of the hardness (9 on Moh's scale) of the Alsimag 513 material.

Designated Alsimag No. GS-28078, the wear plate is mounted with the same screws used for the original plate. It is normally furnished in satin polish A.

American Lava Corp., Manufacturers Rd., Chattanooga 5, Tenn.

Do you want more data? Write ◂ or use card on page 189; list D-207

Washfast blue saves sales yarn mills money

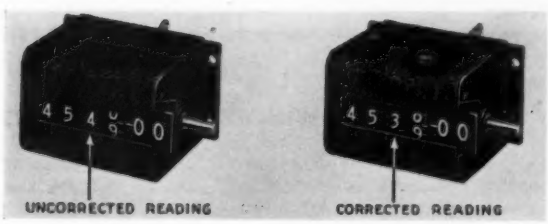
A custom yarn dyer recently announced the availability of Bonded Royal, a new shade which permits sales yarn mills to include a brilliant washfast blue in the color range at a cost below that of a similar vat color. In most cases Bonded Royal can be shaded to match samples.

While it is not fast to bleaching, the new shade withstands washing temperatures up to 140 F and lightfastness is rated at 80 hours.

Franklin Process Co., div. of Indian Head Mills, Inc., 611 Turks Head Bldg., Providence, R. I.

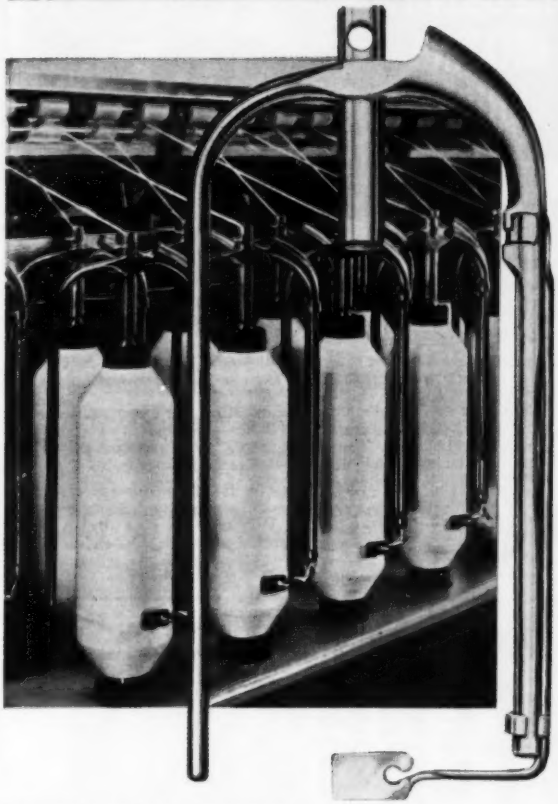
Do you want more data? Write ◂ or use card on page 189; list D-208

High speed direct-reading counter



A direct reading high speed mechanical counter that can operate continuously at 6,000 rpm features a directly-geared second wheel which reduces the wear usually resulting from conventional transfer-pinion methods. Another feature is a means of providing an instantaneously corrected direct-reading in the event that the sec-

15 to 25% INCREASE
IN WEIGHT OF ROVING—
WILL PAY FOR ITSELF IN
7 to 24 MONTHS



MAIER PRIMA FLYERS

HEAVY CONSTRUCTION OF SHOULDERS . . . prevents spreading — allows you to extend width of flyer to the maximum permissable by the gauge of your frame.

HIGH POLISH . . . especially in throat and hollow leg—prevents "eye browing" and insures high quality roving.

NOTCHED THROAT . . . puts false twist into roving back to the front roll—preventing excessive ends down.

DESIGN OF DROP PRESSER . . . the gentle angle of the roving as it leaves the hollow leg and starts to wind around the presser finger prevents the breaking away of fibers from the roving.

DYNAMICALLY BALANCED . . . every flyer is balanced at maximum operating speed within a tolerance of ± 3 grams.

HARD CHROME PLATED FINISH . . . special anti-rust and anti-corrosive finish that will withstand corrosive action of synthetic fibers.

Location of Slot in eye of the presser finger makes threading almost automatic.

TEXTILE SUPPLIES W D USED MACHINERY
Watson & Desmond
P. O. BOX 1954 · CHARLOTTE, NORTH CAROLINA

NEW PRODUCT PARADE

KEEP MACHINES RUNNING
...reduce maintenance costs,
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¾" Size Union Illustrated

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Here is a compact, efficient rotating union—

★ LEAKPROOF
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★ INTERCHANGEABLE with any other rotating union
★ VERSATILE—For Monoflow or Duoflow operation, available in ½", ¾", 1", 1¼" and 1½" sizes
★ MINIMUM TORQUE makes it ideal for high speed applications

See how this dependable, new rotating joint can reduce inventory of replacement parts because of Deublin's standardization of sizes. Keep "shut downs" from wrecking your production schedules. Pays for itself many times over.

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SAVANNAH, GA. — HARVEY D. BLACK (TEL. ADams 4-9879 2121 E. 40th ST.

ond wheel is not fully within the window (see accompanying photo).

The counter has been exhaustively tested and is found to be highly resistant to corrosion, humidity, vibration; to have substantial life and low torque.

Veeder-Root, Inc., Hartford 2, Conn.

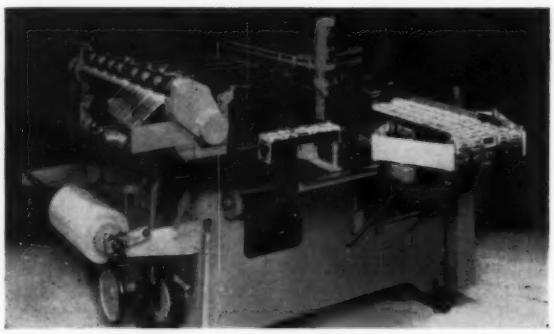
Do you want more data? Write ◂ or use card on page 189; list D-209

Versatile, economical bundler

The economies of automatic bundling of individual packages of underwear, sheets, etc., for shipment, storage, and increased sales now are made available to smaller manufacturers and to companies with a diversified group of short-run products by the new Model 850 "Texpaker"—a completely automatic machine which operates at speeds from one to 18 units per minute. With the usual bundle arrangement of one dozen to the package, it can take the output of a 180-per-minute production line.

Wrapping can be accomplished with 4, 6, 8 or 12 smaller packages wrapped into one large bundle, without the need for bottom supports. Package sizes may vary from 5 to 12 inches long, 4 to 10 inches wide, and one to 8 inches high.

Depending on the assembly selected, "Texpaker" ma-



chines can handle such a wide range of papers as polyethylene, lithographed paper with glue, glue sealing kraft, poly-coated kraft, cellophane, heat or glue sealing foils, polymer-coated cellophane, and a host of other soft plastic formulations.

Occupying 8' x 6' x 4' of floor space, the machine includes such optional features as an electric eye, to register printed designs, a printing attachment to overprint the contents during the paper feeding cycle, and a thermoplastic label applicator.

Battle Creek Packaging Machines, Inc., Battle Creek, Mich.

Do you want more data? Write ◂ or use card on page 189; list D-210

Upkeep is less on automatic silk screen printers

New models of Buser automatic silk screen printing machines feature a moving belt that is hydraulically driven, rather than electrically, and is fully as accurate as the previous models. The squeegee actions are still electrical, but in the new designs a very small number of the electrical circuits and relays remain, which cuts down on maintenance work and costs.

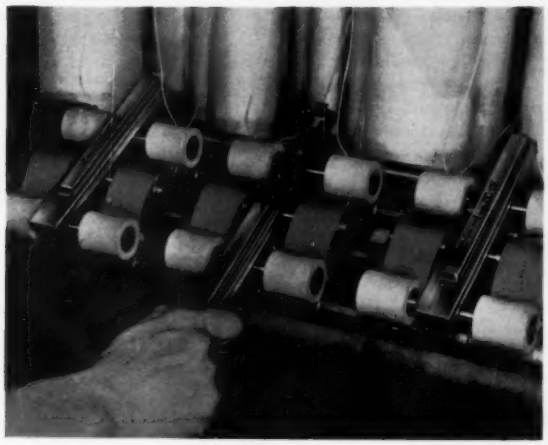
The new models are able to print 66 inches wide. A 40-inch repeat, with two strokes, can be produced at the rate of 400 yards per hour; with one stroke, at 600 yards

per hour. On an 80-inch repeat, with two strokes, they will print at the rate of 750 yards per hour; and with one stroke, at 970 yards per hour.

Jungfrau, Inc., 145 East 57th St., New York 22, N. Y.

Do you want more data? Write ◂ or use card on page 189; list D-211

Top arm has sliding cover for easy pressure removal



A new spinning changeover unit is the Whitin STA Top Arm, a spring weighting top arm featuring ball-bearing top rolls on all three lines and a streamlined cover which slides forward (see accompanying photo) to give leverage for making weighting and unweighting very simple.

Three saddles attached to a U-shaped arm and fastened to it by set screws provide for settings from 1⅝" to 2½" on both drafting zones. Each saddle contains two coil springs.

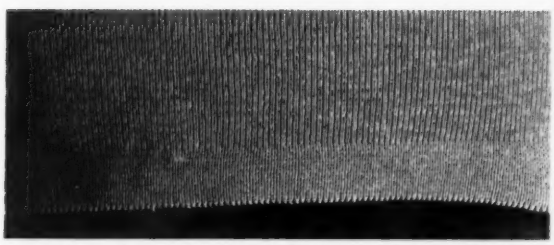
The unit is fastened to the roller beam by a stirrup and spring hook and uses existing level screw holes. Normal weighting is 20 lb on back and middle rolls and 30 lb on front roll. Weight changes can be made by changing the coil springs.

Front top roll is loose-boss type; middle and back rolls are fixed-boss type. Roll bearings need lubrication only after 20,000 working hours. Buffing can be done on conventional equipment.

Whitin Machine Works, Whitinsville, Mass.

Do you want more data? Write ◂ or use card on page 189; list D-212

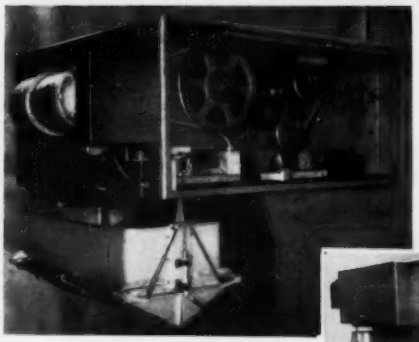
Dual-purpose sweater knitter makes 25-30 blanks/hr



Note the French welt cuff bottom on the rib body.

The Model MFR/FWC knitting machine increases a sweater manufacturer's styling possibilities because it is capable of making rib body blanks with French welt

OPENING—CLEANING and BLENDING SYSTEMS by FIBER CONTROLS



Weighing Pan and Dumping Mechanism of Synchromatic Feeder

FIBER CONTROLS SYNCHROMATIC BLENDING SYSTEM

is Designed to Prevent False Blends under all conditions. With this Super Sensitive Weighing Pan and Air Cylinder dumping mechanism our New tubular aluminum weighing mechanism enables our weight variation to be held below 1% average. Total variation (plus or minus) will not exceed 1%. This variation can be held regardless of the feed, whether heavy or light. Will blend any combination of fibers automatically. Economical to operate and maintain. Labor Saving. Increases Output. Improves Product and Reduces Waste. Has proven its value to Management, regardless of Mill size.

FIBER CONTROLS SCREENLESS CONDENSER

This NEW condenser, Model FC-83, made for Heavy Duty and High Production, has proven itself in efficiency and capacity production. Can be mounted vertically or horizontally with equally good results. Will handle up to 2000 lbs. of fiber per hour through ducts approximately 200 ft. in distance. Will discharge fiber without - Tumbling - Rolling or Pilling. Self-cleaning.

Inquire about more complete details of this equipment. Call or write:

FIBER CONTROLS CORPORATION
BOX 1358 GASTONIA, NORTH CAROLINA

NEW PRODUCT PARADE

FOR EFFECTIVE REMOVAL OF

Residual Chlorine

TC TENNESSEE CORPORATION

LIQUID SULFUR DIOXIDE

SO_2 accomplishes the following —Acidifies alkaline hypochlorite making it easier to wash out. Reduces chlorine to the harmless valence minus one (Cl^{-1})! Leaves fabric acid free. Tennessee's Liquid Sulfur Dioxide is also very effective as a reducing, bleaching and neutralizing agent, and pH control.

LIQUID SULFUR-DIOXIDE HIGHEST QUALITY SO_2

Available In:
• CYLINDERS • TANK TRUCKS
• TON DRUMS • TANK CARS

We would like to consult with you on the possibilities of Tennessee's Liquid Sulfur Dioxide in your processing

TENNESSEE TC CORPORATION
617-29 Grant Building, Atlanta, Georgia

cuff bottoms and also interlock body blanks with rib bottoms.

Production of 23.5 to 30 blanks per hour (based on 100% operating efficiency) is possible with the machine which is a redesigned model of the single-purpose Model MFRC. Natural or synthetic yarns may be used on it.

Three models are available: The MFRC/FWC is equipped with all of the units and parts necessary to operate it either as a French welt cuff with rib top or rib cuff with interlock top. The MFFWC will be manufactured and tested to produce the French welt cuff but will be convertible to the MFRC model for the knitting of interlock sweaters. The SMFFWC will be a super multiple feed French welt cuff machine that will be single-purpose and not convertible to the interlock setup. Such a machine will produce 52 to 66 blanks per hour.

Scott & Williams, Inc., The Brinton Fabrics Machine Div., Laconia, N. H.

Do you want more data? Write ◂ or use card on page 189; list D-213

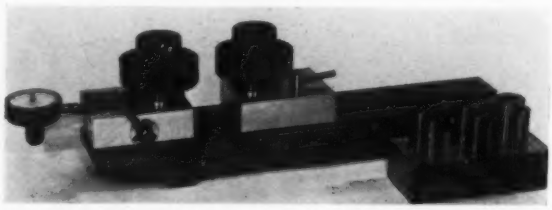
Semi-dull nylon yarn for upholstery

New fabric styling opportunities are made possible with Du Pont Semi-Dull Type 280 Nylon Yarn recently announced. This continuous filament yarn, developed specifically for automotive and furniture upholstery fabrics, enables the achievement with a semi-dull yarn the same high degree of lightfastness with selected dyes as that obtained with bright nylon.

E. I. du Pont de Nemours & Co. (Inc.), Textile Fibers Dept., Wilmington 98, Del.

Do you want more data? Write ◂ or use card on page 189; list D-214

Gear runout tester aids drafting investigations



Since gear runout has been found to cause variations in angular velocity of the drafting rolls on drawing, roving, and spinning frames, West Point Mfg. Co. developed an instrument for checking it. Called the West Point Gear Runout Tester, the device is now commercially available.

The tester is designed primarily for checking total composite error—not for checking center distance between gears; however, the center distance could be checked by calibrating or setting up a fixed distance between the arbors.

The unit consists of a meehanite cast base on which is mounted two gear stud bases. The fixed base mounts a master gear with a 1" bore. The sliding base mounts the test gear. The test gear is moved into contact with the master gear while the loading device is compressed one half its stroke. Lock test gear slide and release loading device on master gear to apply load to test gear and assure proper contact. Zero dial indicator (.0005" direct reading) and slowly rotate test gear to observe total runout.

Custom Scientific Instruments, Inc., 541 Devon St., Kearny, N. J.

Do you want more data? Write ◂ or use card on page 189; list D-215

Spinning cam provides high speed spooling off

A new spinning frame builder motion cam produces a filling wind that permits yarn to be spooled off of large packages at 1230 ypm. Also, a decrease in ends-down is effected because of the better winding obtained.

Developed for the Piedmont spinning frame, the cam, slightly modified, can be used on all conventional spinning frames.

Whitin Machine Works, Whitinsville, Mass.

Do you want more data? Write ◆ or use card on page 189; list D-216

New finishes and chemicals

A catalyst for use in curing epoxy resins is Aluminum Chelate PEA-1, a pale yellow liquid packaged in five-gallon containers. Other physical properties: aluminum, 9.3 - 10%; viscosity, W-X (Gardner Scale); specific gravity, 1.035 @ 25 C; weight per gallon, 8.6 lb; solids 100%; formula weight, 274.29.

The Harshaw Chemical Co., 1945 E. 97th St., Cleveland 6, Ohio.

Do you want more data? Write supplier or use card on page 189; list D-401

Wash-and-wear rayon and rayon mixed fabrics may be produced with a new resin that prevents progressive shrinkage. Called "Thermorez," the product offers extremely high wet and dry crease resistance with a full mellow hand, and a minimum effect on tearing strength and abrasion. It can be blended with softeners, water repellents, and other materials for a wide variety of finished effects.

Metro-Atlantic, Inc., Centredale 11, R. I.

Do you want more data? Write supplier or use card on page 189; list D-402

Stronger wash-and-wear cottons may be obtained by using a new catalyst (known as Catalyst TT) which, when used with urea formaldehyde paste resin, methylated formaldehyde resin, dimethylol ethylene urea, methylated melamine formaldehyde, and triazone, increases the tear and tensile strength 15 to 40%. Better non-yellowing properties, less odor development, better results obtained at higher concentrations—and a reasonable overcuring will not cause tendering—are other advantages to be derived by using this catalyst.

Chas. S. Tanner Co., 250 S. Water St., Providence 3, R. I.

Do you want more data? Write supplier or use card on page 189; list D-403

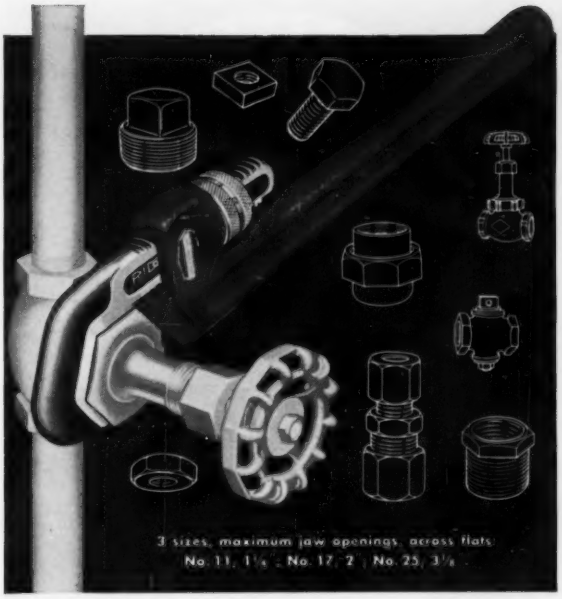
Three dependable flame retardant chemicals for use on drapery, upholstery, and certain garment fabrics of cotton and rayon were announced recently: Laurel Pyrosan A (organic) eliminates after-flaming at once and after-glowing within one or two seconds after removal of fire source; it imparts a soft and pleasing hand to fabrics, does not cause efflorescence in normal fabric storage, and does not affect most dyestuffs. Laurel Pyrosan B (inorganic) is especially useful on pile fabrics, providing a soft and pleasing hand. Laurel Flame Retardant 527C (inorganic) applied to lightly napped goods in low percentages enables them to pass Federal tests.

Laurel Soap Mfg. Co., Inc., Tioga, Thompson & Almond Sts., Philadelphia 34, Pa.

Do you want more data? Write supplier or use card on page 189; list D-404

For use in printing of cotton and man-made-fiber fabrics by screen and roller printing methods is a new extender-binder which offers the advantages of easier

NEW PRODUCT PARADE



Master of Every Nut and Bolt...

NEW RIDGID®

Hex Wrench

Wide-open fast-action multi-sided grip on every hex, square and flathead!

Quick adjustment—stays to size . . . this new Hex Wrench goes on easily, won't slip off—harder you pull, the tighter it grips . . . no more skinned knuckles or rounded nut shoulders! Narrow jaw for close quarters. Famous RIDGID heavy-duty design, guaranteed housing, comfort-grip handle. Three sizes for 3/8" to 2" nuts. Make your work easier and faster—buy new RIDGID Hex Wrenches at your Supply House!

"Got the RIDGID name on it?... OKAY, I'll take it!"

The Ridge Tool Company · Elyria, Ohio, U.S.A.

THREADED PIPE...It's Tight...It's Best...Costs Less!

HERE'S THE TWISTER RING
you see in
TIRE CORD MILLS
EVERYWHERE

Nylon travelers will not fly off!

"MULTI-GROOVE BACKSLOPE"*

Lets you raise speeds without increase in power consumption.

*Patented

WHITINSVILLE (MASS.)
SPINNING RING CO.
Makers of Spinning and Twister Rings since 1873

Rep. for the Carolinas & Va.: W. K. SHIRLEY, P.O. Box 406, Belmont, N. C.
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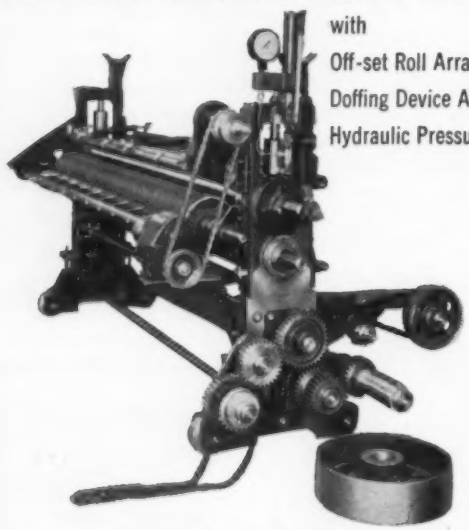
NEW "LIGHTWEIGHT" PERALTA® MACHINE



with
Off-set Roll Arrangement
Doffing Device Attachment
Hydraulic Pressure

Write for information.

Duesberg-Bosson of America, Inc.
Main Street Jefferson, Mass. P.O. Box 25

handling and a more economical operation. A concentrated, high-molecular-weight, acrylic polymer, Gloprint Conc. is a smooth, heavy, white paste which is readily soluble in water for aqueous system application; also it may be used with the oil-in-water system. Prints produced with the product have excellent softness and outstanding fastness to wash and drycleaning tests, as well as superior fastness to light.

Eastern Color & Chemical Co., 35 Livingston St., Providence 4, R. I.

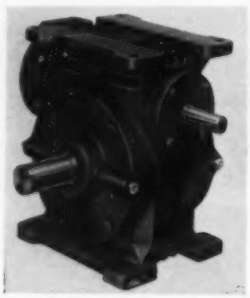
Do you want more data? Write supplier or use card on page 189; list D-405

Three durable silicone water repellents were recently made available, each for a specific purpose: Aquagard-C for "pure finish" applications to cottons withstands both drycleaning and laundering. Aquagard-LC is a low-temperature-curing product applicable (with or without the use of resins) to synthetics and blends. Aquagard-W is for woolens, requiring no curing.

Soluol Chemical Co., Inc., Natick, R. I.

Do you want more data? Write supplier or use card on page 189; list D-406

Equipment briefs



A new universal worm gear speed reducer can be mounted in three different positions: (1) worm shaft below gear; (2) worm shaft above gear; and (3) output shaft vertical. Units are available in 2½, 3, 3½, and 4-in. centers with up to 13½ hp input rating and 7,240 pound-inches output torque rating. A one-piece cast iron housing has external fins for cooling and an aluminum radial fan directs air over the fins.

Link-Belt Co., Prudential Plaza, Chicago 1, Ill.

Do you want more data? Write supplier or use card on page 189; list D-407

A salt dissolver that offers up to 50 per cent more dissolving power than some competitive models is made of glass-fiber-reinforced polyester and is designed for textile and other uses such as industrial water treatment. Optional storage hoppers are custom designed to provide added dry salt storage capacity.

International Salt Co., Inc., P. O. Drawer 511, Scranton 12, Pa.

Do you want more data? Write supplier or use card on page 189; list D-408

A three-wheel tubing cutter permits fast cutting of hard-to-get-at tubing. Called the No. 315, it cuts cleanly through all brass, copper, aluminum, steel tubing, and thin-wall conduit even in the cramped positions close to flares. The integral reamer, which reams full cutter capacity, jack-knifes into the cutter frame when not in use.

The Ridge Tool Co., Elyria, Ohio.

Do you want more data? Write supplier or use card on page 189; list D-409

"Low-pressure" steam injection water heating now is possible wherever there is as much as 5-psi steam supply. The system was designed for use in areas where various codes limit boilers to low pressures. The heating units are secured to walls or ceilings and require no tanks nor tubes.

Pick Mfg. Co., Water Heater Div., West Bend 3, Wis.

Do you want more data? Write supplier or use card on page 189; list D-410

Dry-chemical fire extinguishers feature "fresh-fill" performance including maximum fluidization, absolute gas tightness, and simplified operation. Four models comprise the "D" line: 5, 10, 20, and 30 pounds. The models may stand for long periods without requiring their being inverted to loosen compacted dry chemicals. Gas ports have been redesigned, and neoprene sleeves added to act as check valves on the tube, to blast the powder out evenly regardless of how packed it has become.

Ansul Chemical Co., 1 Stanton St., Marinette, Wis.

Do you want more data? Write supplier or use card on page 189; list D-411

A new fluorescent lamp produces 15 per cent more light, but consumes only 7 per cent more electric power. An improved version of the G-E Power-Groove lamp, it has grooves along both sides, rather than one side only. Weight of the lamp is reduced by nearly one fourth, making it easier to handle.

General Electric Co., Large Lamp Dept., Nela Park, Cleveland 12, Ohio.

Do you want more data? Write supplier or use card on page 189; list D-412

New books

A new edition of the Westinghouse *Maintenance Hints* handbook is available. A feature of this convenient guide to modern maintenance practices on all types of electrical equipment is a chapter on maintenance of static controls. Chapters on electronics and electric brakes have been considerably altered and enlarged. Westinghouse Electric Corp., P. O. Box 2099, Pittsburgh 30, Pa.

Silk Screen Techniques, by J. I. Biegeleisen and Max Arthur Cohn, gives, in addition to basic principles of the process and basic equipment required, the step-by-step procedure for preparing paper stencils, block-out stencils, tusche stencils, film stencils, and photo stencils. Multi-color printing, color theory, and tips for production printing (make-ready, squeegeeing, etc.) are also included. Dover Publications, Inc., 920 Broadway, New York 10, N. Y. Price, $1.45.

Inorganic Fibres, by C. E. Carroll-Porczynski, is a convenient text and reference book for all concerned with the production and applications of these materials. Chapters on glass textiles, asbestos, metallic and metalized yarns, and metalized fabrics should prove useful to textile manufacturing industry personnel. For those with advanced knowledge or engaged in research and development, all the important post-war patents are reviewed and accounts given of recent scientific investigations. In addition, a general picture is presented of each section of the industry, together with extensive bibliographies and lists of references for further reading. Academic Press, Inc., Publishers, 111 Fifth Ave., New York 3, N. Y. Price, $11.00.

Practical Cotton Carding, by J. K. Clegg, was recently published by Platt Bros. (Sales) Ltd., Oldham, England (price, approximately $3.00). It provides in clear and concise form basic information on the cotton type card and, in addition, sets forth in detail easy-to-follow, recommended procedures for card grinding, card setting, flat maintenance, and miscellaneous maintenance operations including the method for clothing cards with flexible and metallic wire.

NEW REFRACTOMETER

Read the percent of solids (which generally means percent of size in yarn) at a glance!

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This **LATEST MODEL** of West Point Foundry's high capacity multi-cylinder slasher has the largest journals and bearings, the largest sprockets, the heaviest frame.

The **PACESETTER CYLINDER SECTION** features side panels that simply lift out to give easy access to cylinders and sprockets. No bolts, screws or nuts to remove, to tighten or to lose. *Covered steam and condensate manifolds* for safety and ease of cleaning.

The **PROVED AND RUGGED HEAD END** with traversing headstock is already in operation in a dozen mills on the widest sheeting and the lightest leno.

- Can accommodate beams varying over *100 inches* in width without projecting arbors . . . NOT LIMITED TO 50 INCHES.
- No gear reducer, no gear motor, no torque tube, no universal joints! What could be simpler and less troublesome than chain and V-belt drive with replacement parts available from any supply house?

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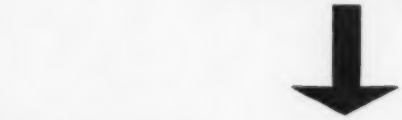

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HELPFUL BOOKLETS FREE!

4-1 NEW COLOR CARD. Color card detailing forty "Bonded Colors" of the recently developed fibre-reactive class is available. Franklin Process Co., 564 Eddy St., Providence, R. I.

4-2 SPEED REDUCER. Folder describes "Universal Worm Gear Speed Reducer" which is built to operate in three positions and has a higher capacity with external fins for cooling. Link-Belt Company, Prulential Plaza, Chicago 1, Ill.

4-3 MOTOR SELECTION. Bulletin gives concise data on selection to users of A-C motors from one through 200 hp. Pictures, ratings, dimensions, etc., included. Reliance Electric and Engineering Co. 24701 Euclid Ave., Cleveland 17, Ohio.

4-4 ZEFRAN PRIMER. Booklet describes acrylic alloy fiber known as Zefran. Gives characteristics, uses, description of various advantages. Dow Chemical Company, Textile Fibers Dept. Williamsburg, Va.

4-5 AIR CONDITIONING CONTROL. Air conditioning control cabinets are described, with tables, curves, and sketches, dimensions, physical data, performance, and coil ratings, etc. Buffalo Forge Company, 490 Broadway, Buffalo, N. Y.

4-6 WASTE TREATMENT. Booklet describes "Dowpac" application in waste treatment. Contains properties, assembly, application in oxidation towers and performance data. Dow Chemical Co. Midland, Mich.

4-7 DOUBLE APRON DRAFTING. Brochure describes "Cleanguide," double apron drafting, latest in top rolls, ball-bearing and nylon. Cotton McCauley & Co., Inc. 188 Main Street, Pawtucket, R. I.

4-8 STAINLESS STEEL VALVES. Catalog gives details on valve patterns in alloys for corrosive services. Degree of resistance to most corrosive media under varying conditions is shown. Jenkins Bros. Room 33, 100 Park Ave., New York, New York.

4-9 MECHANICAL COUNTERS. Booklet contains photographos of full line of mechanical counters. Specifications, descriptions included. Trumeter Co. 38 West 32nd St., New York, New York.

4-10 BULK HANDLING STARCH. Booklet tells how bulk handling methods can reduce the costs of conveying corn starch from the manufacturer to the point of use. Schematic diagrams shown. Clinton Corn Processing Co. Clinton, Iowa.

4-11 SPINNING RINGS. Brochure describes the experiences which various mills have had with Lubri-Cased rings. Also describes manufacturing process. Kluttz Rings, Inc. Gastonia, North Carolina.

4-12 ROLLER CHAINS AND SPROCKETS: contains complete drive chain, conveyor chain and sprocket engineering information in one book of 158 pages. Convenient page-edge guides for easy reference on each section. Link-Belt Company, Dept. PR Prudential Plaza, Chicago 1, Illinois.

4-13 CLOSING HOSIERY TOES. Descriptive bulletin on the application on two needle, three thread machine for closing toes on the patented GeTaz loopless stockings. Merrow Machine Co. 28 Laurel St., Hartford, Conn.

4-14 BLEACHING OXIDIZING & STRIPPING. Booklet includes section on use of textone, a sodium chlorite product for bleaching oxidizing and stripping textiles. Olin Mathieson Chemical Corp. 460 Park Ave. New York 22, New York.

4-15 HEAT RECOVERY. Brochure tells how the Bready System of heat recovery from your plants waste waters can cut operation costs. Ludell Manufacturing Co. 5200 West State St., Milwaukee 8, Wis.

4-16 MOTOR CONTROL. Condensed Price Catalog listing the commonly used motor controls up to and including the Size 4 rating, plus push buttons, limit switches and other accessories. Allen-Bradley Co. 138 W. Greenfield Ave. Milwaukee 4, Wis.

4-17 ALUMINUM CHELATE PEA-1. Technical data sheet tells how aluminum Chelta PEA-1 may be used with advantage in many applications where aluminum is proplate is unsatisfactory. Hershaw Chemical Co., 1945 East 97th St. Cleveland 6, Ohio.

4-18 COMPRESSORS. Single stage and two stage air cooled. Bare and tank mounted units. Available for operating pressures up to 200 psi and over, depending upon application. For details on complete line write for Bulletin AC-15. - Gardner-Denver Co. Quincy, Illinois.

4-19 TEXTILE DYEING METHODS. Current dyeing theories and techniques used in successful dyeing of textiles are simply explained in booklet. Allied Chemical Corp. National Aniline Div. 40 Rector St., New York 6, New York.

4-20 HEAT EXCHANGERS. Brochure describes heat recovery system for utilizing heat contained in waste process liquids in the textile industry. Shows design and construction, special application for textiles. The Sims Co., Box 1096, Erie, Pa.

4-21 ELECTRONIC AIR CLEANER. Bulletin describes line of high velocity ELECTRO-CELL electronic air cleaners. Describes operation, gives details on basic design features. American Air Filter Co., Inc. 215 Central Ave., Louisville, Ky.

HELPFUL BOOKLETS FREE!

raw stock to roving

T-101 Lummus Pepper-Shaker Opener. Gives complete details and photographs. Aldrich Machine Works, P. O. Box 750, Atlanta, Ga.

T-102 Static Elimination. How to eliminate static safely and inexpensively. Simco Co., 920 Walnut St., Lansdale, Pa.

T-103 Card Grinding Information. Care and operation of cards. B. S. Roy & Son Co., Worcester, Mass.

T-104 Card Clothing. Describes Strip-O-Matic Card Clothing. Benjamin Booth Co., Allegheny Ave. & Janney St., Philadelphia, Pa.

T-105 Versa-Matic Drawing Frame. Describes drafting elements, quality of sliver, roving and yarn possible. Saco-Lowell Shops, 60 Batterymarch St., Boston, Mass.

T-106 Sargent Opener. Describes opener with rotary evener and stripper. C. G. Sargent's Sons Corp., Graniteville, Mass.

T-107 Feathertouch Drafting. How to get "highest production per frame at lowest cost." Ideal Industries, Inc., Bessemer City, N. C.

T-108 Automatic Weighing Feeders. Tandem Weighing Feeder produces webs, mats and felts of continuing accuracy. James Hunter, Inc., 745 Loundes Hill Rd., Greenville, S. C.

T-109 Flexidyne Individual Card Drive. Describes operating principles, includes prices. Dodge Mfg. Corp., Mishawaka, Indiana.

T-110 Bobbins. Catalog describes metal, wood and plastic bobbins. Illustrations show actual use. Lestershire Spool Div., National Vulcanized Fibre Co., Wilmington, Del.

T-111 Magnetic Ideas. Booklet shows uses of permanent magnetic separation equipment in opening room as well as throughout mill. Removes tramp iron, prevents fires. Eriez Mfg. Co., Erie, Pa.

T-112 Advantages of Aldrich Pickers. Good technical text, comprehensive pictures. Aldrich Machine Works, P. O. Box 750, Atlanta, Ga.

T-113 New Condenser Tape. Describes Supr-O-Tape, an impregnated fabric condenser tape. Benjamin Booth Co., Allegheny Ave. & Janney St., Philadelphia 34, Pa.

T-114 84" Woolen Card. Includes picture, floor plan, description, and technical details. Davis & Furber Machine Co., North Andover, Mass.

T-115 SRRL Opener-Cleaner. Information on new SRRL development for opening and cleaning cotton being manufactured for sale to mills by Davidson-Kennedy Co., 1090 Jefferson St., N. W., Atlanta, Ga.

T-117 Stops Frame on Roving Failure. Brochure tells how device instantly detects all roving failures and stops frame; also how operators detects all roving failures and stops can handle more spindles with less ends down. Adams, Inc., 209 E. Stone Ave., Greenville, S. C.

T-118 Synthetic Blender. Information on blending machine that assures delivery of synthetic fibers to pickers, webbers, etc., in such shape that these machines can do their work properly. Cen-Tennial Cotton Gin Co., Columbus, Ga.

T-119 Fiber Meter. Automatic weighing and blending assures quality, holds variation to 1%. James Hunter, Inc., Greenville, S. C.

T-120 Pin Drafters. Textile job report No. 21 tells how Warner & Swasey Pin Drafters help modify jute system for carpet yarns at Lehigh Spinning Co., Allentown, Pa.

T-121 Universal Card Coiler. Literature describes both head and base swivel for adjustment. Includes data on 90-day free trial. McDonough Power Equipment, Inc., McDonough, Ga.

T-122 Recondition Opening & Cleaning. Bulletin gives whys and wherefores of reconditioning your opening and cleaning lines. Special attention given to each machine with suggestions as to parts replacement. Saco-Lowell Shops, 60 Batterymarch St., Boston 10, Mass.

T-123 Coiler Conversions. Full facts on low initial cost conversion to larger coiler cans. Lists advantages, has complete description. Southern States Equipment Corp., Hampton, Ga.

T-124 Card Drive. Bulletin 301-a describes simple, safe, efficient individual card drive. Southern States Equipment Corp., Hampton, Ga.

T-127 Pneumastop for Fly Frames. Brochure explains, in terms of dollars and cents, the benefits of having Pneumastop-equipped roving frames in the mill. Illustrated to show its operation and several different types of installations. Pneumafil Corp., Charlotte 8, N. C.

T-128 Quick-Set Roving Frame. Integral machine for processing of worsted, synthetic or blended yarns. Whitin Machine Works, Whitinsville, Mass.

T-132 Proctor Super Picker. Data sheet gives details of the Proctor Super Picker for use on slabs of baled cotton, or wool and synthetic blends in layers up to 12" thick. Proctor & Schwartz, Inc., 7th St. and Tabor Rd., Philadelphia 20, Pa.

yarn and warp making

T-201 Products For Spinning and Weaving. Complete line, applications, advantages shown. Dayton Rubber Co., Textile Div., Dayton, Ohio.

T-202 New Bobbin Manual. Complete bobbin guide. Lestershire Spool Division, National Vulcanized Fibre Co., Wilmington 99, Delaware.

T-203 Spindle Oil. "Gulfspin" insures against excessive wear and eliminates spindle wobble. Gulf Oil Corp., Gulf Bldg., Pittsburgh, Pa.

T-204 Anti-Static Agent. Data sheet lists basic characteristics of liquid anti-static agent which eliminates processing difficulties with fibers due to static electricity. E. F. Houghton & Co., 303 West Lehigh Ave., Philadelphia 33, Pa.

T-205 High Speed Automatic Quiller. Lists advantages and dimensions of "Autocopser." Terrell Machine Co., Inc., P. O. Box 928, Charlotte, N C.

T-208 Packaged Spinning Modernization. Details on Collecto-Vac, Open-Aire Creels, Cross-Jet Cleaner, Air Conditioning. Bahnson Company, Winston-Salem, N. C.

T-209 Sectional Warper. Describes full width and sectional warpers for knitting, weaving. Robert Reiner, Inc., Weehawken, New Jersey.

T-210 Conical Rings and Flyers. Complete details and specifications. Herr Manufacturing Co., Inc., 318 Franklin St., Buffalo 2, New York.

T-211 Precise Winding Machine. For winding pineapple or straight cones and tubes of synthetics. Foster Machine Co., Westfield, Mass.

T-212 Automatic Cleaning Equipment. Working details and advantages of the Tri-Rail Cleaner. American MonoRail Co., 13107 Athens Ave., Cleveland 7, Ohio.

T-214 Textile Mill Lubricants. Description of Ben Boy Bearing, Spindle, Twister Lubricants and Non-Melting Oils. Georgia-Carolina Oil Co., Box 101, Macon, Ga.

T-215 Custom Made Thread Guides. Includes composition, properties, specifications of all designs. American Lava Corporation, Chattanooga 5, Tenn.

T-216 Spinning Frame Conversions. Big-package, new-frame results at half the cost. Meadows Mfg. Co., Station A, Atlanta, Ga.

T-217 Collecto-Vac. New development collects lint, fly and broken ends. The Bahnson Company, Winston-Salem, N. C.

T-219 Spinning and Twister Rings. Complete details, pictures, price list. Whitinsville Spinning Ring Co., Whitinsville, Mass.

T-220 Lint-Free Creel. Complete details and pictures of the new Airfoil Design. Pneumafil Corporation, Charlotte 8, N. C.

T-222 Suction Cleaning System. Details on new Collector Unit Model C-4. Pneumafil Corp., Charlotte 8, N. C.

T-223 Facts About Your Flyers and Spindles. Advantages of smooth flyer and spindle operation. Ideal Machine Shops, Bessemer City, N. C.

T-224 Traveling Cleaners. Describes improved frame and room cleaners. Parks-Cramer Co., Fitchburg, Mass.

T-225 Lapless Endless Spinner. Full information available. Ton-Tex Corporation, 31 Columbus Ave., Englewood, N. J.

T-226 Worsted Spinning. Describes five stages from top to yarn. Saco-Lowell Shops, 60 Batterymarch St., Boston 10, Mass.

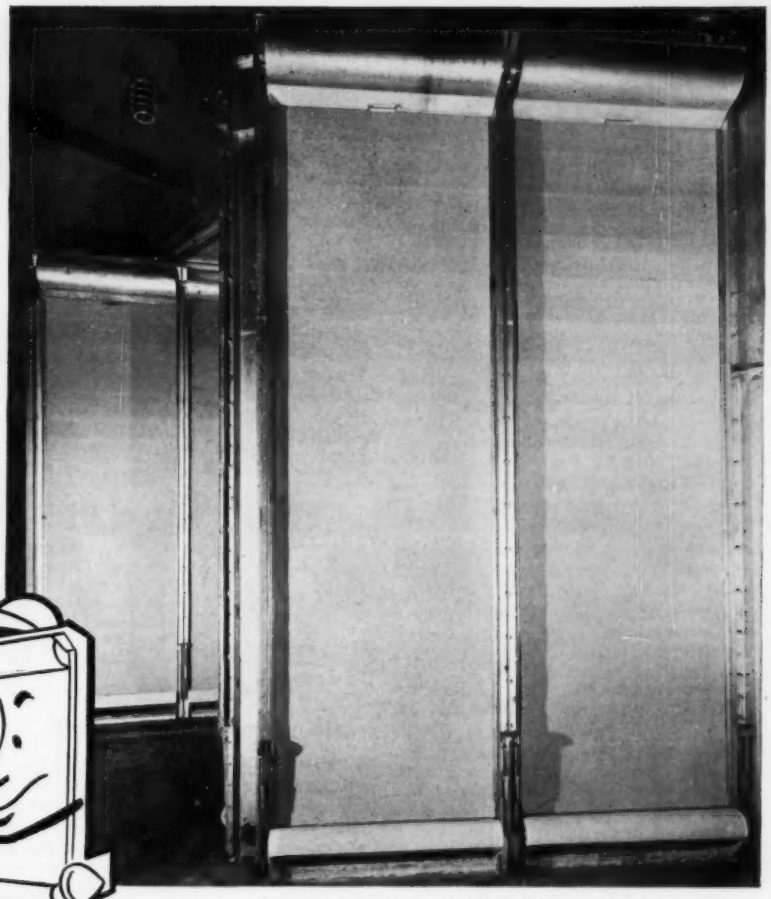
T-227 Spindle Oiling Machine. Features and advantages noted. Wicaco Machine Corp., 4800 Stenton Ave., Wayne Junction, Philadelphia 44, Pa.

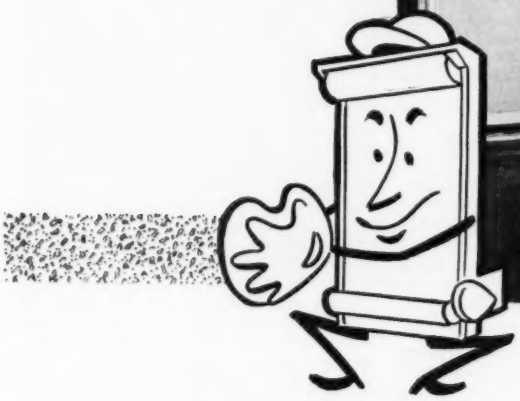
T-228 Handy Spinning Reference. Shows traveler speeds, sizes of ring flanges. Victor Ring Traveler Co., Providence, R. I. and Gastonia, N. C.

T-229 Unirail Uptwister. Higher yarn quality and better packages at faster speeds. Universal Winding Co., P. O. Box 1605, Providence, R. I.

(Continued on next page)

Auto-AIRMAT filters CATCH LINT for INMAN MILLS





"V" arrangement of Auto-AIRMAT filters at Inman Mills plant. Air-conditioning system designed and installed by Buensod-Stacey, Inc., Charlotte, N. C.

Automatic AAF filters supply 597,400 cfm of lint-free air to South Carolina plant

Lint doesn't have a chance to "foul up" operations at Inman Mills, Inman, S. C. Auto-AIRMATS—the AAF lint filters—are protecting eight air conditioning systems supplying nearly 600,000 cfm of clean air.

Auto-AIRMAT is the *only* filter designed to remove lint fibres from the air and clean itself at the same time! Airmat filtering material, winding from roll at top of unit, moves automatically down the face of the filter, collecting lint all the way—re-winds into easily disposable roll at bottom.

If you have a lint problem, investigate the *lint filter*—the AAF Auto-AIRMAT. Call your local American Air Filter representative or write direct for Bulletin 234. Address: Mr. Robert Moore, American Air Filter Company, Inc., 275 Central Avenue, Louisville 8, Kentucky.

AAF American Air Filter

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T-230 Precision Textile Winding. Tensions and density control for winding rubber cones. Kidde Textile Machinery Corp., Farrand St., Bloomfield, N. J.

T-231 Cone Winder. Describes Model 102 winder, including applications. Foster Machine Co., Westfield, Mass.

T-232 Short Cut To Staple Fiber Spinning. Ten steps in operation of the Tow Stapler. Turbo Machine Co., Lansdale, Pa.

T-233 Weaver's Knotter. Instructions as to use, description. A. B. Carter, Inc., Gastonia, N. C.

T-234 Textile Roll Coverings. Describes complete line as well as other mill supplies. Armstrong Cork Co., Industrial Div., Lancaster, Pa.

T-236 Tape For Driving Spindles. Describes banding for spindle drives on twisting, roving and spinning. Benjamin Booth Co., Allegheny Ave. & Janney St., Philadelphia 34, Pa.

T-239 Large Package Twister. Information on new anti-friction Jumbo Twister which carries a 14" bobbin with a 12" build. Meadows Mfg. Co., P. O. Box 4354, Atlanta, Ga.

T-240 Yarn Lubricant. Data sheets describe Fibergard EF 313, a white cream used for stock lubricant; warp sizing, softener, binder and lubricant; and cone winding lubricant. Harry Miller Corp., 4th and Bristol St., Philadelphia 40, Pa.

T-241 Pacemaker Twisters. Folder gives details on high production, outlines notable features. Whitin Machine Works, Whitinsville, Mass.

T-242 Ring Spinning Frame. Folder presents description, illustrations and specifications of up-to-date Simplex ring spinning frames. Davis & Furber Machine Co., North Andover, Mass.

T-243 Anti-Friction Twister Bearings. Find out how bearings helped make The Meadows Twister almost friction-free. Fafnir Bearing Company, New Britain, Conn.

T-246 Better Beams. Information on three ways to make better beams. Kidde Textile Machinery Corp., Farrand St., Bloomfield, N. J.

T-249 Vari-Speed Motor Pulley. Describes variable speed control through use of simplified three-major-part disc-assemblies with only one lubrication point. Reeves Pulley Co., Reliance Electric & Engineering Co., Columbus, Ind.

T-250 Spinning Modernization. Booklet shows how lower costs and improved quality are obtained by spinning modernization. Roberts Company, Sanford, N. C.

T-252 Frankl Textile Machinery. Details on foreign worsted machinery, narrow fabric looms, and finishing machinery. Ernest L. Frankl Assoc., 515 Madison Ave., New York 22, N. Y.

T-255 New Bobbin Holder. Details on streamlined, positive latching bobbin holder. Whitehead Die Casting Co., 1140 Zonolite Rd., Atlanta, Ga.

T-256 Variety of Bobbins. Information on complete line of bobbins for all types of looms and all types of stop motions by Emil Adolff of Germany. Textile Corp., 695 Summer St., Stamford, Conn.

T-258 Dependable Beams. Free bulletins available on complete line of light metal, continuous welded construction beams. Milton Machine Works, Inc., Milton, Pa.

T-259 Silicone Warp Spray. Information on how to end costly downtime with K-15 Silicone Warp Spray. Lubricates, stiffens, strengthens, binds split ends and is non-staining. Schmidt Manufacturing Co., New Bedford, Mass.

T-261 The Brief Saga of the Ring Traveler. An interesting history relative to the ring traveler, which is in reality the basis of the spinning frame. John Thorpe's invention of ring traveler, the development of the spindle, and the invention of Rabeth's bolster type spindle are covered. Write National Ring Traveler Co., Pawtuckett, R. I.

slashing—weaving—tufting

T-301 Counting And Measuring Devices. Wide range of counting devices for all types of textile machinery. Veeder-Root, Inc., Hartford, Conn.

T-302 Loom Supplies. Describes complete line. E. H. Jacobs Northern Division, The Bullard Clark Co., Danielson, Conn.

T-303 Innovation In Textile Drying. Details on Steam or Gas "Hot Air" Slasher. J. O. Ross Engineering Corp., 444 Madison Ave., New York 22, New York.

T-304 Loom Production Charts. Celluloid card shows yards per loom per week. Ralph E. Loper Co., Greenville, S. C.

T-306 The Story Of Starches. History and information on manufacture and use of starches. National Starch Products, Inc., 750 Third Ave., New York 17, N. Y.

T-307 Loading System. Pneumatic loading system for Saco-Lowell slasher. The Foxboro Company, Foxboro, Mass.

T-308 Steel Warp Beams. Beams for both broadloom and narrow fabrics. Milton Machine Works, Inc., Milton, Pa.

T-309 Penford Gums In Textiles. Describes their excellent properties for warp sizing spun yarns. Penick & Ford Ltd., Inc., 420 Lexington Ave., New York 17, New York.

T-310 Saco-Lowell Positrol Slasher. Includes advantages, photographs, cut-away drawings. Saco - Lowell Shops, 60 Batterymarch St., Boston 10, Mass.

T-311 Rotary Unions. Cut costs, get better sealing on can dryers. Perfecting Service Company, 332 Atando Ave., Charlotte, N. C.

T-312 Air Slasher Dryer. Shows construction and operating details. Proctor & Schwartz, Inc., 7th St. and Tabor Rd., Philadelphia 20, Pa.

T-313 Butt-Tacking Sewing Machine. Describes operation, installation of single thread butt-tacking sewing machine. The Merrow Machine Co., 28 Laurel St., Hartford, Conn.

T-314 Loom Reed Booklet. Describes in detail a variety of reeds. Steel Heddle Mfg. Co., 2100 West Allegheny Ave., Philadelphia 32, Pa.

T-315 Cocker Equipment. Information on warp sizer, beam warper, creels, tensions, back-winders, etc. Cocker Machine & Foundry Co., Gastonia, N. C.

T-316 Chemical Data Sheets. Available on a full range of chemicals. Nopco Chemical Co., Harrison, N. J.

T-318 Formulas For Slashing Arnel. Includes also information on warping, weaving and quilling. Textile Sales Dept., Celanese Corp. of America, P. O. Box 1414, Charlotte 1, N. C.

T-319 Eclipse Starches For Textiles. Data sheet describes use of thin-boiling starches in the textile industry, with particular emphasis on warp sizing. Physical and chemical data included. A. E. Staley Mfg. Co., Decatur, Ill.

T-320 Textile Accessories. Gives specifications of Gates textile accessories in handy pocket booklet. The Gates Rubber Co., 1001 Broadway, Denver 17, Colorado.

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T-326 Draper Repair Parts Catalog. Contains illustrations covering all mechanisms and construction with complete listings. Draper Corporation, Hopedale, Mass.

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(Continued on next page)

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T-354 The Story Of Latex. Booklet describes origin, history and uses of latex. Includes list of industrial applications. General Latex and Chemical Corp., 666 Main St., Cambridge 39, Mass.

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T-359 Pressure Sensitive Tapes. Brochure tells of applications in yarn spinning, weaving, finishing, rug manufacturing, etc., Minnesota Mining & Mfg. Co., St. Paul 6, Minn.

T-360 Supplies For Tufters. Information on yarns for rug tufting or chenille or carpet backing. Piedmont Cotton Mills, East Point, Ga.

T-361 Eclipse Starches for Textiles. Data sheet describes use of thin-boiling starches in the textile industry, with particular emphasis on warp sizing. Physical and chemical data included. A. E. Staley Mfg. Co., Decatur, Ill.

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T-401 Singlehead Full - Fashioned Machine. Literature on request from the Wildman-Jacquard Div., Draper Corp., Hopedale, Mass.

T-402 Forged Head Aluminum Beams. Gives specifications on new high-yardage beams. Milton Machine Works, Inc., Milton, Pa.

T-403 Raschel Knitter. Describes new Raschel-type knitting machine. Kidde Textile Machinery Corp., Inc., Farrand St., Bloomfield, N. J.

T-406 Needle Oil Does Not Stain. Details on "Gulftex 39" developed for knitting mills. Gulw Oil Corp., P. O. Box 1106, Pittsburgh 30, Pa.

T-407 Knitting Machines. Information on Wildman "TFS" 30" single section F-F machines and "AL" 32" diameter 32-feed "single purpose" circular interlock machine (rib type). Wildman-Jacquard Div., Draper Corp., Hopedale, Mass.

T-409 Knit Goods Finishing Machinery. Data on calenders, shrinkers, curers, extractors, steamers. Tubular Textile Machinery Corp., 33-61 54th St., Woodside, N. Y.

T-410 "Reading" Type 60 F-F Knitting Machine. Information about the new "Reading" Type 60, 38-section automatic full-fashioned hosiery knitting machine. Write Textile Machine Works, Reading, Pa.

T-411 Double Life of Knitting Cams. Technical information on how Chromalloy diffusion process produces a wear-resistant chromium carbide surface on knitting cams. Chromalloy Corp., 450-D Tarrytown Rd., White Plains, N. Y.

wet processing

T-501 Tubes For Package Dyeing. Describes Dytex tubes for one-time use. Sonoco Products Co., Hartsville, S. C.

T-502 Finishing Machinery. Text and photographs of complete line of machinery. Marshall and Williams Corp., 46 Baker St., Providence, R. I.

T-503 Water Analysis. Includes tables, conversion factors, indicators, standard solutions. Solvay Process Div., Allied Chemical Corp., 61 Broadway, New York 6, N. Y.

T-504 Urea Formaldehyde. Literature on urea formaldehyde or U.F. concentrate-85. Dept. CUFI-29-1, Nitrogen Div., Allied Chemical Corp., 40 Rector St., New York 6, New York.

T-505 Acid Mordant Blue B. Details on Acid Alizarine Blue B for bright navy shades. Zinsser & Co., Inc., Hastings-on-Hudson 6, New New York.

T-506 Cationic Surface Active Agent. Describes Uversoft "D." Harshaw Chemical Co., 1945 East 97th St., Cleveland 6, Ohio.

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T-513 Catalyst AC-6. Tells how curing efficiency may be stepped up as much as 25%. Monsanto Chemical Co., Plastic Division, Springfield 2, Mass.

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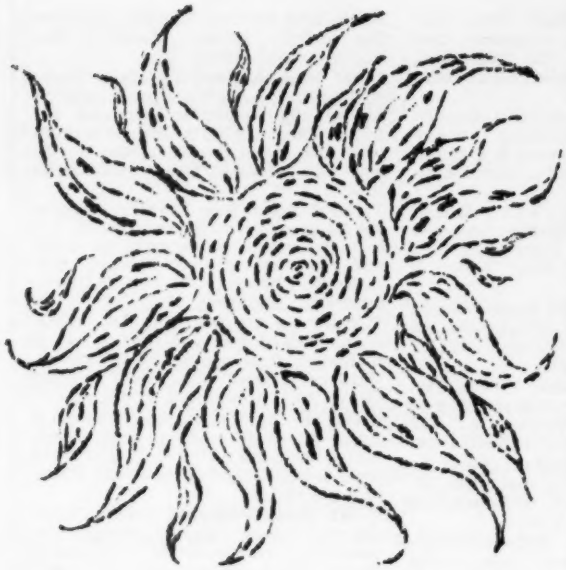

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T-517 Chemical Catalog. Lists products with chemical composition, properties and applications. Antara Chemicals Div., General Aniline & Film Corp., 435 Hudson St., New York 14, New York.

T-518 Hydraulic Power Units. Describes unit for operating hydraulic textile machines. B. F. Perkins & Son, Inc., Holyoke, Mass.

T-522 Cut Water Treatment Costs. Describes the control of scale, slime, algae and corrosion. Oakite Products, Inc., 126C Rector St., New York 6, New York.

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T-525 Guiders And Tension Devices. Straight line guiding of open width goods. Mount Hope Machinery Co., 15 Fifth St., Taunton, Mass.

T-526 Hycar Latices. Physical properties and typical fields of application. B. F. Goodrich Chemical Co., 3135 Euclid Ave., Cleveland 15, O.

T-527 Sodium Hydrosulfite. Literature and test samples are available on "T-C Hydro." Tennessee Corp., 617-629 Grant Bldg., Atlanta, Ga.

T-528 Ethanolamines. Lists application, chemical and physical properties. Nitrogen Division, Allied Chemical Corp., 40 Rector St., New York 6, New York.

T-530 Ball Bearing Turn Table. Describes 48-inch steel turn table for mills. Birch Brothers, Inc., 32 Kent St., Somerville, Mass.

T-531 Rotary Dyeing Machine. For use in dyeing hosiery, hats, gloves, socks, etc. Turbo Machine Co., Lansdale, Pa.

T-532 Micro Switch For Wet Process. Advantages and applications in dyeing, bleaching, finishing. Micro Switch Div., Minneapolis-Honeywell Regulator Co., Freeport, Ill.

T-534 Dyeing and Finishing Machinery. Complete line presented in series of catalogs. Birch Brothers, Inc., 32 Kent St., Somerville 43, Mass.

T-535 Dyeing, Bleaching and Drying Equipment. Complete line for cotton, wool and synthetics described. Color pictures. Morton Machine Works, 1718 3rd Ave., Columbus, Ga.

T-536 Napthol Ratios Slide Chart. Quickly and accurately enables operators to determine Napthol Ratios. Alliance Color & Chemical Co., 33 Ave. P, Newark 5, New Jersey.

T-537 "PCB" Rock Salt. Tells how product saves money, eliminates bad dyeing. Morton Salt Co, Industrial Division, 120 So. LaSalle St., Chicago 3, Ill.

T-538 Wool Oils. Describes influence of wool oils in producing quality yarns and fabrics. Procter & Gamble Dist. Co., Gwynne Bldg., Cincinnati, Ohio.

T-540 Penford Finishing Gums. Complete data, including physical properties. Penick & Ford Ltd., Inc., 420 Lexington Ave., New York 17, New York.

T-541 Regeneration Of Zeolite Water Softeners. Explains advantages of Lixate Process. International Salt Co., Scranton, Pennsylvania.

T-542 Dyeing Synthetic Fibers. Detailed analysis of methods and materials. General Dyestuff Co., 435 Hudson St., New York 14, New York.

T-543 Industrial Brushes. Features use on shears, printing machines. M. W. Jenkins' Sons, Inc., 444 Pompton Ave., Cedar Grove, N. J.

T-544 Waste Heat Recovery Describes system of waste heat recovery from polluted water. Ludell Mfg. Company, 5200 West State Street, Milwaukee, Wis.

T-545 Washers For Scouring, Bleaching, Acidifying. Describes highcapacity, continuous process washers. C. G. Sargent's Sons Corp., Graniteville, Mass.

T-546 Naphthol for Lightfast Browns. Booklet describes new, straight, nonsubstantive naphthol, Naphthol As-BN, for the continuous naphtholation of cotton and rayon piece goods in the dyeing of economical, fast-to-light browns. General Dyestuff Co., 435 Hudson St., New York 14, New York.

T-547 Softener, Lubricant, Napping Aid. Technical information available on softener, lubricant and napping aid for natural and synthetic fibers, yarns and fabrics. Nopco Chemical Co., Harrison, N. J.

T-548 Handbook on Methocel. Gives technical information and use data on family of methylecellulose ethers called Methocel. Organic Chemicals Sales, The Dow Chemical Co., Midland, Mich.

T-549 Wall Charts For Handling, Testing H_2O_2 Two 16" x 21" wall charts available, one on handling and the other on testing H_2O_2. Becco Chemical Div., Food Machinery & Chemical Corp., Buffalo 7, N. Y.

T-550 Polyvinyl Acetate Emulsion. Bulletin contains a description of Celanese emulsions and cites advantages of Celanese polyvinyl acetate emulsions in textile finishing. Celanese Corp. of America, Plastics Div., 744 Broad St., Newark 2, N. J.

T-554 Instrument Catalog. Complete information on industrial instrument accessories and supplies. Includes specifications, parts numbers and prices. Catalog 500, Foxboro Co., Foxboro, Mass.

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T-557 High Activity Catalyst. Technical bulletin describes new catalyst AC-6 which provides increased activity, excellent bath life, minimum odor formation, etc. Monsanto Chemical Co., Plastics Div., Springfield, Mass.

T-558 Cationic Dye Leveler. Bulletin TX-34 gives new information on dye leveler for acid colors on nylon tricot and wool through use of Nopco 1425-B. Nopco Chemical Co., Textile Chemicals Div., Harrison, N. J.

T-559 Flow Control Complete information on largest selection of values to handle flow control requirements. William Powell Co., 2525 Spring Grove Ave., Cincinnati 22, Ohio.

T-560 Profitable Curing. Complete story on profit-making loop curers and roller curers. Proctor & Schwartz, Inc., Seventh and Tabor Rd., Philadelphia 20, Pa.

T-561 Pump Pourable Pastes. Bulletin tells how Moyno pumps can pump any textile liquid that can be forced through a pipe, even if highly viscous or corrosive. Robbins & Myers, Inc., Springfield, Ohio.

T-563 Polyethylene Finishing Agent. Booklet contains information needed to adopt Emulsifiable A-C polyethylene as a finishing agent to any particular process. Semet-Solvay Petrochemical Div., Allied Chemical Corp., 5th Floor T, Rector Street, New York 6, N. Y.

T-564 Hydrogen Peroxide Bleaching. Booklet discusses advantages, operating details and savings in chemical costs of Activated Hydrogen Peroxide Bleaching Process for Cotton. Solvay Process Div., Allied Chemical Corp., 61 Broadway, New York 6, N. Y.

T-566 Ethylex Gums. Brochure describes properties of hydroxy ethyl ether derivatives of corn starch. Applications of these noncongealing gums in warp sizing and finishing covered. A. E. Staley Mfg. Co., Box 151, Decatur, Ill.

T-567 Superlose and Ramalin Describes the physical and chemical properties possessed by these two principal components of potato starch. Colloid Dept., Stein, Hall & Co., Inc., 285 Madison Ave., New York 17, N. Y.

T-570 Carpet Dryers. Details, pictures, drawings on driven roll, conveyor, and tenter types. Andrews and Goodrich Div., 336 Adams St., Boston (Dorchester), Mass.

T-571 Chainless Mercerizing Machine. Two new bulletins provide complete information on the Benninger Chainless Mercerizing Machine for piece goods. H. W. Butterworth & Sons Co., Bethayres, Pa.

T-572 Dyeing Machinery for Every Purpose Illustrated literature available on complete line of automatically controlled machinery. Gaston County Dyeing Machine Co., Stanley, N. C.

T-573 Textile Finishing Machinery. Folder available from Marshall and Williams Corp. contains photographs of each piece of finishing equipment manufactured by the firm. Request from Marshall and William Corp., 46 Baker St., Providence, R. I.

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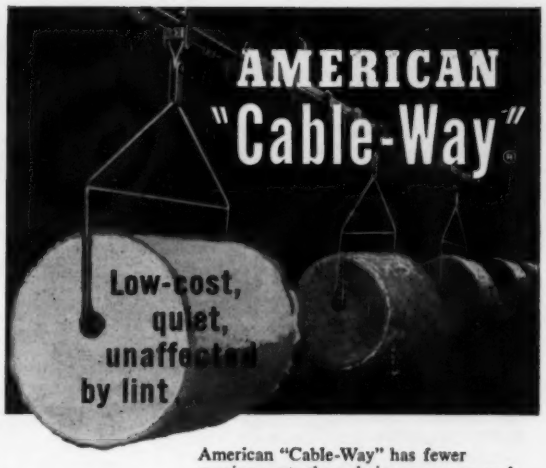

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T-577 Stainless Dry Cans. Information on stainless steel, 75 psi, reverse dished, head dry cans. Can be furnished Teflon-coated if desired. Sims Metal Works, West Point, Ga.

T-578 Color Sells—Yes. Bulletin No. 262 on lighting for critical viewing or color matching. Macbeth Daylighting Corp., Newburgh, N. Y.

fibers and yarns

T-601 Fortisan-36, New Textile Fiber. Includes charts, diagrams, text, presents technical properties. Textile Sales Dept., Celanese Corp. of America, P. O. Box 1414, Charlotte, N. C.

T-602 Caprolan Nylon Heavy Yarns. Describes strength, long flex life and ready dyeability. Fiber Sales Dept., National Aniline Div., 261 Madison Ave., New York 16, N. Y.

T-603 Rayon—Mile By Mile. Details on how rayon is produced mile by mile, perfect inch by inch. Industrial Rayon Corp., 500 Fifth Avenue, New York 16, N. Y.

T-604 The Chemstrand Nylon Story. Describes the birth and growth of Chemstrand Nylon. Chemstrand Corp., 350 Fifth Ave., New York 1, N. Y.

T-605 Color-Fast Fibers. Further information on "Coloray," Courtauld's solution dyed rayon staple which is a contribution to colorfastness in fabrics. Courtaulds (Alabama) Inc., 600 Fifth Ave., New York 20, N. Y.

T-606 "Dial-A-Fiber." Ingenious circular chart indicates properties and compatabilities of "Uvitex" for application on natural and synthetic fibers. Ciba Co., Inc., Technical Dept., 627 Greenwich St., New York 14, New York.

T-607 The Story On Lurex. Information on metallic yarns made with Mylar and how they are developed to broaden the scope of the tufted industry. Textile Fibers Dept., The Dow Chemical Co., James River Div., Williamsburg, Va.

T-608 Taslan Textured Yarns. Technical information on dyeing and finishing of new fabrics made with Taslan. E. I. du Pont de Nemours & Co., Wilmington 98, Delaware.

T-609 Processing Nylon Staple. Data sheet describes method of processing Du Pont 420 Nylon Staple in blends with cotton. Covers complete operation through sizing. Bulletin N-93, E. I. du Pont de Nemours & Co., Inc., Wilmington, Del.

T-610 Aluminum Yarns. Folder available containing actual samples of vari-colored aluminum yarns. Reynolds Metals Co., Reynolds Metals Bldg., Richmond, Va.

T-611 Candlewick Tufting Yarns. In cotton, rayon, nylon and blends . . . a "put up" for every need. Candlewick Yarn Co., Dalton, Ga.

laboratory

T-701 Testing Instruments. Descriptions of 37 instruments for testing textiles. Custom Scientific Instruments, Inc., 541 Devon St., Kearny, N. J.

T-702—Metal Detector. Spot troublesome metal before it harms equipment or fabrics. Radio Corp. of America, Dept. S-271, Building 15-1, Camden, N. J.

T-703 Shadograph Weighing Devices. Pictures and information on various types of scales. Exact Weight Scale Co., Columbus 8, Ohio.

T-705 Strobotac. Measures speed of rotating, reciprocating or other cyclic motions. General Radio Co., 275 Massachusetts Ave., Cambridge 39, Mass.

T-706 Yarn Count Scale. Data sheet tells how direct-reading instrument provides fast, accurate method of determining yarn number. Exact Weight Scale Co., Columbus 8, Ohio.

T-707 Maintenance Information for Scott Testers. Booklet contains maintenance data for calibration of Scott Testers, clamps for testers, gearbox lubrication, and recording. Scott Testers, Inc., Providence, R. I.

T-712 Automatic Moisture Control. Booklet tells how Hunter Electro-Psychrometers are used in measuring percentage of moisture in all classes of textiles, whether yarns or fabrics. Hunter Controls, Inc., Div., James Hunter Machine Co., North Adams, Mass.

services for management

T-801 Factoring Service. Details on advantages of factoring, including information on general banking and pension plans. Trust Company of Georgia, Atlanta, Ga.

T-802—Non-Woven Fabrics. Report includes how non-woven fabrics are made, machinery involved, sample fabrics. Textile Fibers Dept., E. I. du Pont re Nemours & Co., Inc., Wilmington 98, Del.

T-807 Group Insurance. Information on how textile group insurance can insure the happiness of your employees and make for a better running mill. Provident Life and Accident Insurance Co., Group Dept., Chattanooga, Tenn.

T-808 Factoring. Complete details on services offered as mill factors. L. F. Dommerich, 271 Madison Ave., New York, N. Y.

T-809 Move Key Men Quickly. Industrial airplanes help keep your key men from being stuck on one job at a time. Southern Airways Co., P. O. Box 718, Atlanta, Ga.

T-810 The Wonalancet Way is the title of an editorial booklet published five times a year dealing with current problems which appear worthwhile at the time they are written Write Wonalancet Company, 128 Burke St., Nashua, N. H.

T-811 Electrical Contracting. Details on services available to the textile industry. J. M. Clayton Co., 78 Simpson St., N.W., Atlanta 1, Ga.

T-812 Beechcrafts at Work. Booklet available from Southern Airways Company shows how Beechcraft executive airplanes can save executives time ond money. Write Southern Airways Co., P. O. Box 718, Atlanta, Ga.

T-818 Textile Engineering. Information on complete, integrated service covering every type of textile project. Robert & Co. Assoc., 96 Poplar St., N. W., Atlanta 3, Ga.

T-819 Organized Lubrication Pays. Planning book entitled "Management Practices that Control Costs via Organized Lubrication" shows how to effect savings in five areas of plant operation. Available from The Texas Co., 135 E. 42nd St., New York 17, N. Y.

T-821 Inventory Control. How a study of paperwork in one textile mill revealed that a daily report of inventory condition could be mechanically produced on existing business machines with a net direct payroll saving of more than $10,000 a year is reported in booklet available from Administrative Methods Dept., Werner Textile Consultants, 1430 Broadway, New York, N. Y.

plant operation

T-902 Belt Lacing Equipment. Includes prices, specifications, etc. Clipper Belt Lacer Co., Grand Rapids, Michigan.

T-903 "Motor Selector." How to select a-c motors for specific application. Bulletin B-2103. Reliance Electric & Engineering Co., 24701 Euclid Ave., Cleveland 17, Ohio.

T-905 Rotary Pressure Joints. Details on self-lubricating, self-adjusting, self-aligning joints. The Johnson Corp., Three Rivers, Mich.

T-906 Servicing "One-Shot" Lubricators. Describes high capacity spring discharge piston pump lubricator. Bijur Lubricating Corp., 151 W. Passaic St., Rochelle Park, N. J.

T-907 Wrap Up Lint Problems. Automatic lint filter removes lint from air, winds it into disposable roll. Bulletin 234, American Air Filter Co., 275 Central Ave., Louisville 8, Ky.

T-908 Textile Motors. Bulletin describes complete line of textile motors. Diehl Mfg. Co., Finderne Plant, Somerville, N. J.

T-911 Leather Belting. Selection, installation, proper maintenance. Atlanta Belting Co., 508-510 Whitehall St., S. W., Atlanta, Ga.

T-912 Story of Nylon Bristle. Tells of discovery and production, with special attention to "Tynex," a form of nylon ideal for use in brushes. M. W. Jenkins' Sons, Inc., 444 Pompton Ave., Cedar Grove, N. J.

T-914 Industrial Greases. Describes multi-purpose lithium soap industrial greases. Sinclair Refining Co., 600 Fifth Ave., New York, New York.

(Continued on next page)

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T-917 Blowers And Exhausters. Full description, including detailed drawings. Buffalo Forge Co., 490 Broadway, Buffalo 5, N. Y.

T-918 Paint Stripping Booklet. Explains simplified method of stripping paint. Oakite Products, Inc., 22 Thames St., New York 6, New York.

T-921 Catalog Of Needle Bearings. Design, application for five types of needle bearings. The Torrington Co., Torrington, Conn.

T-922 Metered Lubrication. Points up advantages of central lubrication systems. Bijur Lubricating Corp., Rochelle Park, N. J.

T-924 Ball Bearings For Textile Machinery. Bearings for all phases of textile processing. The Fafnir Bearing Co., New Britain, Conn.

T-925 Lubrication Of Bearings. Helpful list of do's and don't to prolong bearing life. New York & New Jersey Lubricant Co., 292 Madison Ave., New York 17, New York.

T-927 Flexible Couplings. Tells how to select "Sure-Flex" couplings. Five tables short-cut the usual engineering calculations. Bulletin #10100, T. B. Wood's Sons Co., Chambersburg, Pa.

T-928 Controls For Heating, Air-Conditioning. Catalog describes and illustrates line of automatic controls for heating, ventilating and air-conditioning control systems. Barber-Colman Co., Rockford, Ill.

T-929 New Air Conditioners. Bulletin describes new line of AAF-Herman Nelson Air Conditioning Units, featuring the Roll-O-Vent automatic air filter. American Air Filter Co., Inc., Louisville 8, Ky.

T-930 Dry Fluid Drive. Booklet describes how Flexidyne offers a new approach to difficult drive problems through the use of steel shot as a "liquid." Dodge Mfg. Corp., 1000 Union St., Mishawaka, Ind.

T-931 New V-Belt Drives. Bulletin contains information on selection and operation of V-belt drives. Covers all types of V-belt drives. Dodge Mfg. Corp., Mishawaka, Ind.

T-932 Smooth Acceleration, Deceleration. Describes eddy - current equipment for smooth, stepless acceleration and deceleration. Eaton Mfg. Co., 3307 14th Ave., Kenosha, Wis.

T-933 Catechism Of Electric Machinery. Booklet contains complete technical treatise on various electrical machines. Electrical terms defined. Fairbanks, Morse & Co., Fairbanks-Morse Bldg., Chicago 5, Illinois.

T-934 Vibration Control. Special facts kit shows mountings for textile machinery. Also provides data for proper selection of thickness and density. The Felters Co., 212 S Street, Boston 11, Mass.

T-937 V-belts. Tells how raw materials and finished belts are tested and inspected. Quality control and experimental production covered. Booklet 5-51107, Dept. 794, Goodyear Tire & Rubber Co., Akron 16, Ohio.

T-939 Lubricant Pumps. Catalog features new line of air-motor operated lubricant pumps. Covers design and engineering features, lubricant-output-performance and selection charts. Catalog No. 65, Lincoln Engineering Co., 5702-15 Natural Bridge Ave., St. Louis 20, Missouri.

T-941 Switches Cut Production Cost. Tells how switches make various textile operations more automatic, safer, and more productive. Micro Switch Div., Minneapolis-Honeywell Regulator Co., Freeport, Illinois.

T-942 Central Station Air Conditioning. Booklet describes controlled ventilation, air circulation, air washing, humidifying, evaporative cooling which are available through central station air conditioning. Parks-Cramer Co., Fitchburg, Mass.

T-944 Static Eliminator. Tells how to eliminate static safely, simply and inexpensively. Simco Co., 980 Walnut St., Lansdale, Pa.

T-946 Lubricants For Textiles. Gives description of bearing lubricants, spindle oils, etc. Georgia-Carolina Oil Co., Box 101, Macon, Ga.

T-947 Detect, Extinguish Fires. Describes portable and built-in extinguishers; smoke detecting and rate-of-rise fire detecting systems. Catalog "P-40," Dept. "A," Walter Kidde & Co., Inc., Main St., Belleville 9, N. J.

T-948 New Lubricated Plug Valves. Semi-steel and steel lubricated plug line. The William Powell Co., 2525 Spring Grove Ave., Cincinnati 22, Ohio.

T-951 Organized Plant Lubrication. This subject, including how to go about it, is discussed at length in the July, 1958, issue of "Lubrication," a Texaco publication. Reprints of that issue are available from The Texas Co., 135 E. 42nd St., New York 17, N. Y.

T-955 Prevent Corrosion of Plain Steel. Describes special C-17 Pre-Krete, a hydraulic cement formula, designed to prevent corrosion or rust of plain steel vessels. Pocono Fabricators, Inc., Div. of Patterson-Kelley Co., Inc., East Stroudsburg, Pa.

T-956 Penetrating Wood Finish. Describes floor seals for textiles. E. I. du Pont de Nemours & Co., Inc., Finishes Div., Wilmington, Del.

T-957 Pipe Threading Tools. Capacities and weights included along with pictures. Ridge Tool Co., Elyria, Ohio.

T-958 Stainless Steel Fabrication. Information on ventilating and drying, slasher exhaust, and materials handling in stainless. Sims Metal Works, West Point, Ga.

T-962 Industrial Floor Finishes. 16-page book contains specifications and descriptions of industrial floor finishes for textile use. Includes directions for application. Minnesota Paints, Inc., 1101 Third Street, South, Minneapolis, Minn.

T-963 Humidification by Graduvac. Bulletin gives details on gravity type atomizer control system and tells how supply of water to atomizers is automatically regulated. Parks-Cramer Co., Fitchburg, Mass.

T-967 Tailor-Made Gears. Information on textile and industrial gears for every purpose from iron, steel, bronze, rawhide, Bakelite, and made to specification. Ferguson Gear Co., Gastonia, N. C.

T-968 Liquid Lint Dispersant. Details on how Lintoff G-36 prevents lint and sizing compound from sticking in the eliminator plates of central station air washers. Industrial Products Co., 185 Harris St., N. W., Atlanta, Ga.

T-969 Multifak Lubrication. How you can simplify lubrication in your mill by using Multifak, the low cost multiple purpose textile lubricant. The Texas Co., 135 E. 42nd St., New York 17, N. Y.

T-970 Johnson Rotary Pressure Joints. Bulletin describing the rotary pressure joint which requires no packing, no lubrication, and no adjustment. Gives installation and maintenance instructions, types, sizes, dimensions, and prices. Request from The Johnson Corp., Three Rivers, Michigan.

materials handling and shipping

T-1005 Tramrail Engineering And Application. Data on how Tramrail equipment can cut handling costs. Cleveland Tramrail Div., Cleveland Crane and Engineering Co., 1036 East 289th St., Wickliffe, Ohio.

T-1007 Materials Handling For Textiles. Shows how fibre trucks can increase efficiency, protect products. National Vulcanized Fibre Co., Wilmington 99, Del.

T-1008 Stresses on Overhead Tracks. Covers track peening, discusses stresses. Cleveland Tramrail Div., Cleveland Crane & Engineering Co., Wickliffe, Ohio.

T-1010 Overhead Materials Handling. Treats twin fan ceiling cleaners and shock proof electrification as well. Louden Machinery Co., Fairfield, Iowa.

T-1012 Improved Materials Handling. "Materials in Motion" describes use of fibre containers. National Vulcanized Fibre Co., Wilmington, Del.

T-1013 Trucks Doff, Store, Become Spooler Tray. Brochure tells how mobile boxes are being used as doff boxes, storage boxes, and spooler trays on Barber-Colman spooler. Fisher Mfg. Co., Hartwell, Ga.

T-1014 Carpet Cores, Storage Tubes. Literature on simplified storage and better cores for rugs. Sonoco Products Co., Hartsville, S. C.

T-1015 Overhead Conveyor. Catalog features "Cable-Way" Overhead Conveyor which has low-cost, ease of installation, quiet operation and long life. Conveyor Division, The American MonoRail Co., Fourth and Franklin Sts., Tipp City, Ohio.

T-1016 Guide To Better Closures. For use as a guide for the evaluation of methods currently in use to effect economy and better production in the closure of fiber board boxes. Acme Steel Products Div., Acme Steel Co., 135th and Perry Ave., Chicago, Ill.

T-1020 Automatic Wrapping. Tells how automatic packaging increases the sales appeal of textile products. Saves labor and materials and adds tamper - proof product protection. Write Hayssen Mfg. Co., Sheboygan, Wis.

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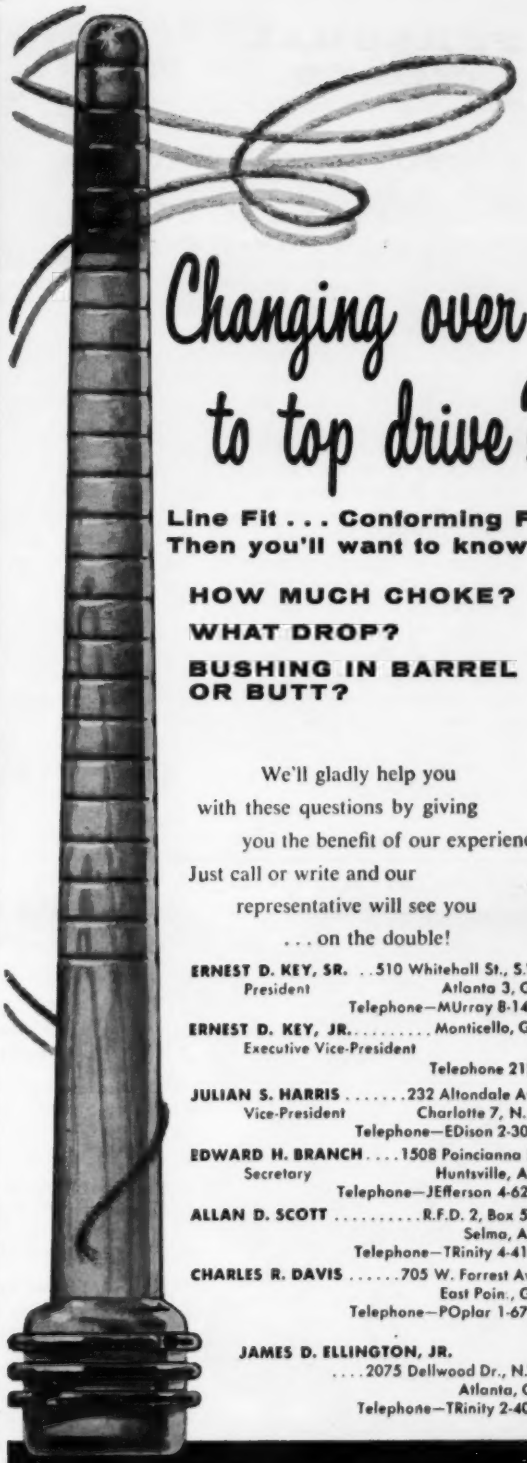

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PERSONAL NOTES

(Continued from page 52)

Pacific and Blumenthal are within the Burlington Industries, Inc., organization. * * * **A. Clayton Hedgepeth,** resident manager of Sidney Blumenthal's Rocky Mount and Wilson, N. C., mills, has been elected a vice-president in charge of manufacturing. * * * **V. N. Shepherd** has become controller of the Rocky Mount, N. C., plant of Sidney Blumenthal & Co. **W. G. Holmes** has assumed Mr. Shepherd's former position as divisional administrative manager of the Raeford, N. C., plant of Pacific Mills. **Herbert Knox** has joined the Raeford plant to fill the position of superintendent of the weave mill, vacated when **Sam Homewood** was promoted to plant manager of the Hot Springs, N. C., plant. **A. F. Buie** was named to fill the position of divisional cost supervisor formerly held by Mr. Holmes, and **W. C. Covington** has replaced Mr. Buie in the Raeford general office area.

Mr. Conner
Hyde Park Mills

Mr. Gwaltney
Russell Mfg.

Mr. Askew
Russell Mfg.

Mr. Bradshaw
Russell Mfg.

Hyde Park Mills, Inc., Covington, Tenn., has named **J. M. Conner** a vice-president.

Dixie Mercerizing Co., Chattanooga, Tenn., has promoted **Robert P. Cochran** to the position of assistant general manager. In his new capacity Mr. Cochran will coordinate and direct the spinning and finishing of Dixie and its subsidiary, Rockfish-Mebane Yarn Mills, Inc. **L. T. Prigmore, Jr.,** has been appointed plant manager of Dixie's Lupton City, Tenn., plant, the position previously held by Mr. Cochran.

Energetic Worsted Corp., Bridgeport, Pa., has elected **Mrs. John J. Hosey** president succeeding her late husband.

Alfred G. New has assumed his new post as treasurer of Gaffney (S. C.) Manufacturing Co. Mr. New succeeds **J. J. Norton, Jr.,** who resigned to become vice-president and treasurer of Pacolet (S. C.) Manufacturing Co. **John W. Walker** has replaced Mr. New as general manager of Judson Mills.

The B. F. Goodrich Tire Co. has appointed **Charles B. Putman** manager of costs and inter-plant accounting with headquarters in Akron, O. Mr. Putman was serving in the capacity of treasurer of the textile products division at Martha Mills, Thomaston, Ga.

Hanes Hosiery Mills Co. has elected **Carlysle A. Bethel** and **Grace Jones Colombo** to the board of directors. At the same time, **Robert B. Elberson** was elected secretary. Mrs. Colombo is said to be the first woman to be made a director of a major hosiery mill.

Milton K. Emerson has accepted the new position of manager of the fabric division of Hellwig Dyeing Corp., Philadelphia, Pa. According to a company spokesman, the firm plans to expand in synthetics and man-made fiber processing.

Jantzen, Inc., Portland, Ore., has appointed **Erman Mitts** manager of the sweater division to replace the late G. Robert Dodson. **Kenneth C. Smith,** vice-president and comptroller, was elected treasurer to fill the vacancy created by Mr. Dodson's death.

The board of directors of The Russell Manufacturing Co., Alexander City, Ala., has announced the creation of five new vice-presidents of the firm. The new vice-presidents and their positions are: **E. C. Gwaltney, Jr.,** vice-president and general superintendent; **L. M. Askew,** vice-president of the knit goods division;

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Charlotte, N.C.

Mr. Richardson
Russell Mfg.

Mr. Robinson
Russell Mfg.

S. H. Bradshaw, Jr., vice-president of the finished cloth division; **J. W. Richardson,** vice-president of the bleachery division; and **T. F. Robinson,** vice-president of the grey goods division. Mr. Gwaltney had been serving as general superintendent and each of the other men as general manager of the division indicated.

North Carolina Finishing Co., Salisbury, N. C., has named **Vernon S. Ryan** head dyer in the cotton dye department. **Curtis Rogers** succeeded Mr. Ryan as night supervisor. **Coleman Grubb, Jr.,** has been appointed general foreman of the warehouse department. He retains his duties as general foreman of the sewing department.

Marshall C. Stone has been named president of Pacolet (S. C.) Manufacturing Co., succeeding **Roger Milliken** who remains as vice-president.

John Tice has assumed his new duties as overseer of the cut order department at the Hillside plant of Callaway Mills Co., LaGrange, Ga.

The National Association of Finishers of Textile Fabrics has re-elected **Lawrence Marx, Jr.,** vice-president of Clearwater (S. C.) Finishing Co., president. Reelected vice-presidents were **Godfrey S. Rockefeller,** Cranston (R. I.) Print Works, and **Richard D. Wood, Jr.,** Millville (N. J.) Manufacturing Co.

James Claude Williams has retired from his position as knitting technician and laboratory instructor at Clemson College, Clemson, S. C.

Frank E. Latimer has become technical supervisor of U. S. Rubber Co.'s Asbeston plant in Hogansville, Ga. He will continue to be responsible for production and development.

Virginia Mills, Inc., Swepsonville, N. C., has named **Julian T. Baker** executive vice-president, succeeding

. . . for a new textile plant going into production

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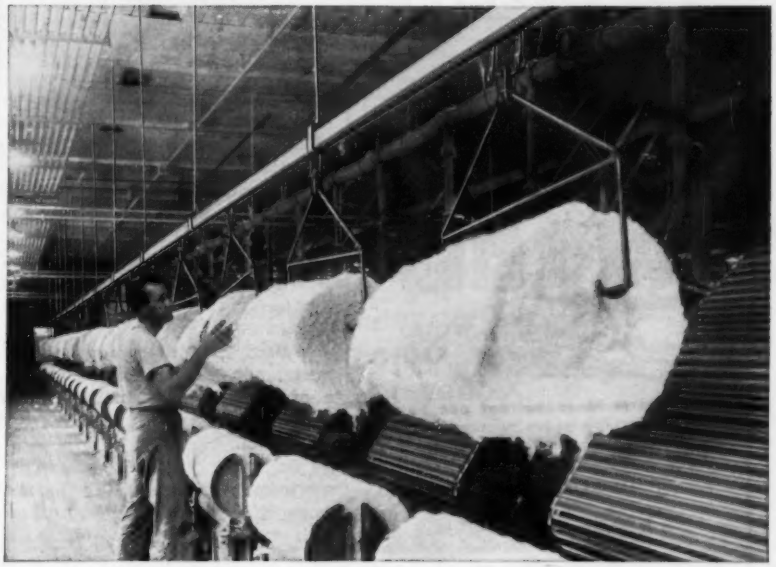

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PERSONAL NOTES

Walter M. Williams who has been ill since last October and is still confined to the hospital.

Security Mills, Inc., has appointed **John B. Rubenstein** executive vice-president. He continues as president of Security Mills of Canada, Ltd., and as vice-president and director of Yantic (Conn.) Woolen Mills, Inc. He is also a director of the corporation. **Arnold Rubenstein** has been named vice-president in charge of manufacturing. He is responsible for production and purchasing for the Newton, Mass., and Yantic, Conn., plants.

Walter S. Montgomery, Jr., has been appointed vice-president in charge of Spartan Mills, Inc., the sales organization of Spartan Mills, Spartanburg, S. C.

Stedman Manufacturing Co., Asheboro, N. C., has appointed **Luther W. Self** to the newly created post of manager of market research and development.

Frank X. Magarahan has retired from his post of assistant manager of the Appleton plant of J. P. Stevens & Co., Inc., in Anderson, S. C. He has been succeeded by **Robert L. Hale.**

George G. Souhan has succeeded his father, **Francis J. Souhan,** as president of Seneca Knitting Mills, Inc., Seneca Falls, N. Y. Francis Souhan, who will continue as president of the company's sister firm, Geb & Souhan Yarn Co., has assumed his son's former duties as vice-president. George Souhan will continue to serve as vice-president of the sister firm.

Newly elected president of The Cotton Institute of Canada is **J. E. O'Grady,** managing director of Stauffer-Dobbie, Ltd. Other officers chosen at the annual meeting in Montreal were: first vice-president—**W. H. Young,** managing director of The Hamilton Cotton Co., Ltd.; second vice-president—**D. R. Gormley,** executive vice-president of Canadian Cottons, Ltd; and honorary treasurer—**G. B. Gordon,** president of Dominion Textile Co., Ltd.

USF-Aspinook Finishing division, Gera Corp., has named **W. C. Filz** manager of the Hartsville, S. C., plant, succeeding the late George W. Little. **Ray R. Walker** has become assistant resident manager.

George Asnip has been elected treasurer of Laurens (S. C.) Mills. He is also vice-president of Excelsior (worsted division) and treasurer of Abbeville Mills Corp.

Norman Dawson has been named plant manager of James Lees and Sons Co.'s Rabun Mills, Rabun Gap,

OBITUARIES

Ernest Bradley, 80, former superintendent of Magog Print Works, Magog, Que., Canada.

Robert Bradley, textile manufacturing executive, Lenoir, N. C.

Edward D. Brady, 63, vice-president of Waucantuck Mills, Uxbridge, Mass.

William O. Buzzell, 77, textile manufacturing executive, New Bedford, Mass.

Julian Canady, southern carding representative for Davis & Furber Machine Co., Charlotte, N. C.

L. B. Colbert, 67, retired carding overseer of Riegel Textile Corp., Trion, Ga.

Alfred C. Gaunt, 76, retired textile manufacturer, Lawrence, Mass.

Asa J. Harwood, 87, retired executive of Atlas Underwear Corp., Richmond, Ind.

Jesse H. Keeble, 62, retired overseer, Callaway Mills Co., LaGrange, Ga.

P. B. Mitchell, 77, an official of Joanna Cotton Mills, Joanna, S. C.

John V. Moore, 78, retired thread and narrow fabrics manufacturer, Providence, R. I.

Joseph Moskow, owner of Altamont Knitting Mills, Hazelton, Pa.

Herman Pincus, vice-president of Kin Kaid Knits, Brooklyn, N. Y.

James C. Redden, manager of Texas Textile Mills, Dallas, Tex.

William F. Regnery, 54, president of Joanna Western Mills Co. and Joanna Cotton Mills Co., Joanna, S. C.

Dr. Sam Schenck, 63, chairman of the board of Cleveland Mills, Shelby, N. C.

E. E. Smith, 45, sales manager and assistant secretary of Synthane Corp., Philadelphia, Pa.

Benjamin Spector, 73, retired knitting industry executive, Bronx, N. Y.

George R. Valerius, 67, retired wool buyer at Botany Worsted Mills, Ridgewood, N. J.

Ross Washer, 64, president of Vanetta Mills, Inc., Cedarhurst, L. I., N. Y.

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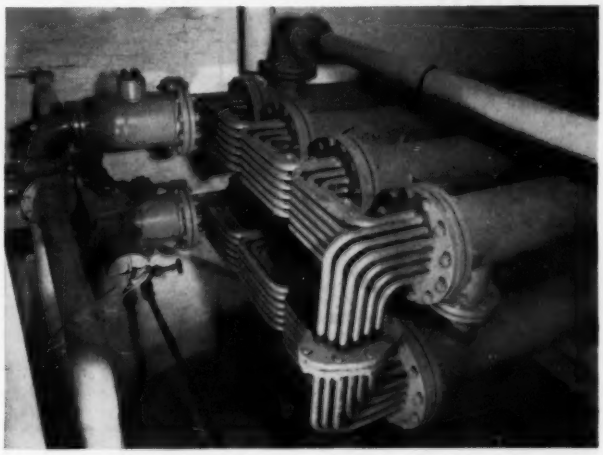

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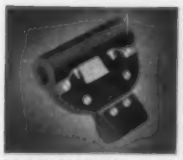

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Send for complete information on ALL Garland textile products. Ask for special data on new Garland plastic loom pickers.

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Also manufacturers of Nylon and Rawhide Hammers and Mallets.

56 WATER STREET • SACO, MAINE

PERSONAL NOTES

Ga. Succeeding Mr. Dawson as plant manager at the Fontana Mills division, Robbinsville, N. C., is **Charles Lyle.** Mr. Lyle's former position of superintendent of the firm's Axminster mill at Glasgow, Va., has been filled by **Samuel R. Mays.**

James F. Magarahan has joined M. Lowenstein & Sons, Inc., as assistant to the vice-president in charge of Lyman (S. C.) Printing and Finishing Co. Mr. Magarahan will make his headquarters in New York City.

William D. Appel has retired from his post as chief of the textiles section and assistant to the chief of the Organic and Fibrous Materials Division of the National Bureau of Standards. He will do consulting work and edit the annual technical manual of the AATCC. He will also serve the latter organization as coordinator for supplements to its "Color Index," published in cooperation with the British Society of Dyers and Colourists. Succeeding Mr. Appel is **Herbert F. Schiefer.** Dr. Schiefer has been with the Bureau since 1929, except for a leave of absence in 1951-1952, during which he served as director of research of the School of Textiles, N. C. State College, Raleigh, N. C.

Native Laces & Textiles, Inc., New York City, has named **Ira Birnbaum** vice-president. In that capacity he serves as director of all plant operations, succeeding **Herman L. Weisler** who has resigned. Mr. Birnbaum retains the duties of secretary.

T. J. Floden has retired as chairman of the board of Nelson Knitting Co., Rockford, Ill. **Ray C. Peterson,** president, is serving as active head of the firm.

MKM Knitting Mills, Inc., has appointed **Malcolm Gordon** executive vice-president. He will make his headquarters at the main offices in Manchester, N. H. Succeeding Mr. Gordon as manager of the mill at Cayey, Puerto Rico, is **Dennis Long.** The hosiery and sweater operations, formerly a single unit, have been split into two divisions in the Puerto Rican plant. Head of the sweater operation is **Richard Wolf,** the firm's production manager. **Harold Tysinger** heads the hosiery division.

MILL NOTES

A new yarn twisting and winding plant has been opened in Gastonia, N. C., by **Craftspun Yarns, Inc.** The Gastonia plant is a subsidiary of Craftspun in King's Mountain, N. C., and will be known as Plant No. 2. An estimated 40 to 50 persons will be employed.

Dan River Mills, Inc., Danville, Va., has announced plans to spend in excess of $4 million for new machinery and modernization of existing facilities. In addition to the purchase of 150 new looms (reported previously), four slashers and 15 quill strippers will be installed in plants at Danville. Other plans include the air conditioning of three spinning rooms, and the transfer of 186 looms from the former Rome, Ga., plant to Danville.

Construction has begun on a building designed to give an additional 1,024 sq ft of floor space to **W. O. Hosiery Co.,** Thomasville, N. C. The firm's offices will be housed in the new structure. It was emphasized that the addition does not mean immediate expansion of production equipment but is a measure to alleviate present cramped conditions.

The spacious lobby of the Harrison Hightower Building of the A. French Textile School at the Georgia Institute of Technology has been decorated handsomely with Georgia-made materials donated as follows: Tables, chairs, and potted plants were given by the Textile Education Foundation, an organization sponsored by Georgia textile mills. Draperies and upholstery fabrics were supplied by Chicopee Mfg. Corp. Donors of the four carpets were A. & M. Karagheusian, Inc., Callaway Mills Co., Bigelow-Sanford Carpet Co., and Kingston Mills. Beautifying the floor of the school's main office is a carpet presented by Cabin Crafts, Inc. The conference room is now attractively furnished with chairs, tables, draperies, and carpet provided by Burlington Mills Foundation.

Winners and runners-up in the 1958 Alabama textile mill safety contest have been announced by the safety and inspection division, Alabama State Department of Industrial Relations. Winner of the weaving and spinning contest was **Tallassee Mills** with a total of four lost-time accidents out of 3,194,463 man-hours worked. Runner-up was **Huntsville Manufacturing Co.** with four lost-time injuries out of 2,699,282 man-hours worked. In third place was **Bemis Bro. Bag Co.**, Talladega, with 1,698,570 man-hours worked and a frequency of 2.35. In this division,

AVOID

SPINNING ROOM DISRUPTION!

There are many, many reasons and causes for machine failure presenting the costly problem of "Down-time". Some of these every day problems are unforeseen - - - BUT

the foresight of . . .
ANDERSON SHIELDS
will reduce . . .
CHIPPING — SPLITTING
BREAKING
of your . . .
SPOOLS AND BOBBINS

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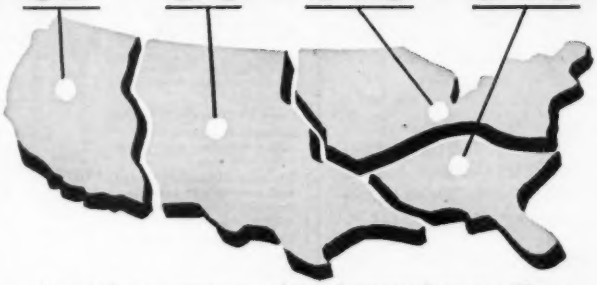
67 + 80 + 618 + 513 = 1278



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More and more owners are taking advantage of our new "Group Service Plan" which provides certified maintenance service at a very reasonable cost.

For your Scott Testers, insist on servicing with latest factory know-how and techniques . . . which only Scott field men can provide. We are as near as your telephone.

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ADAMS FACT FILE #2

PLANT AIR

Moisture Chief Cause of Trouble . . .

Every company today is looking for ways to offset the increased costs of labor, material, equipment and services. At a gasoline station you expect "Free Air", but in industry it is a major expense. Perhaps in your own plant, for an investment in a few minor compressed air system alterations, significant savings are possible.

Water, sludge, rust, oil and dirt in compressed air systems are prime causes of maintenance and production down-time. Water vapor condensing in air lines tends to corrode the piping. Also, water present in the piping may freeze during winter, causing serious reduction of compressed air supply. Such restrictions are often difficult to locate and thaw. This same line moisture may emulsify lube oil destroying its lubricating value and the resultant mixture has high fouling characteristics. Frequently, ice will form within the tool itself since expanding air cools the moisture . . . tool efficiency will be seriously affected.

Some of the Other Problems Created By Wet Compressed Air . . .

Wet compressed air is not only a construction and production tool problem. Faulty paint jobs, contaminated chemical and food products can often be traced to moisture laden compressed air. Waterhammer, unequal pipeline thermal expansion and line leaks also result from collected moisture. In addition, air lost through traps, and in blow-down of compressed air lines provide no useful work . . . represent a sizeable power loss.

You Can Lick Compressed Air Moisture Problem . . .

All of these hidden costs can be virtually eliminated by the installation of an Adams Aftercooler and Cyclone Separator between the compressor and receiver tank. By cooling discharge air to within 10° F. of cooling water temperature — guaranteed with Adams standard Aftercoolers — the moisture can be removed at the separator. Pressure loss is less than one-half pound on these units including the separator. In severe cases, moisture removal of over 90 per cent can be obtained by cooling the air with Adams 2° Aftercooler to within 2° F. of water temperature.

Air Filter for Final Protection at Point of Use . . .

As an added safeguard for expensive tools and equipment, an Adams Poro-Stone Air Filter should be installed just before the air is used. These filters remove all solid material picked up by the air stream. With an Adams Aftercooler, Cyclone Separator and Air Filters clean, dry, trouble-free air is supplied to your production tools. You get continuous service with minimum maintenance.

For further information on how the complete line of Adams air equipment can solve your compressed air problems, write today for your free copy of Bulletin No. 712 on Aftercoolers and Bulletin No. 117 on Poro-Stone Air Filters from the R. P. Adams Company, Inc., 216 East Park Drive, Buffalo 17, New York.

MILL NOTES

Buck Creek Cotton Mills, Siluria, made the greatest improvement, having a frequency of 20.95 in 1957 and 8.44 in 1958. Winner in the spinning contest was **Gurney Manufacturing Co.,** Prattville, where 533,454 man-hours were compiled with no lost-time accidents. This firm was also cited as having made the greatest improvement in the division with a frequency of 0.00 in 1958 as compared to 10.45 in 1957. Runners-up were **Anniston Cordage Co.** with no lost-time accidents out of 245,957 man-hours worked, and **Linen Thread Co.,** Blue Mountain, with 1,805,537 man-hours worked and a frequency of 5.54.

Equipment to manufacture mohair and mohair blend yarns on the Bradford System has been installed at **Alexander Industries, Inc.,** Lawrence, Mass.

Two new combers and a new lap winder have been installed in the Hawthorn Mill of **American Thread Co.** in Clover, S. C., in line with the modernization program recently instituted. A new winder gives added capacity in the winding department. * * * Internal mail is now delivered by American Thread trucks to six of the company's plants, providing better intra-company service. * * * President P. S. Howe, Jr., has announced that American Thread Co. has been selected as the exclusive U. S. distributor of the Velcro Closure, a garment closing device entirely free of metallic working parts.

Robert Seckler and Abe Berman have formed **Ashley Knitters, Inc.,** in Philadelphia, Pa., for the manufacture of ladies' and men's full-fashioned sweaters.

Ballston Knitting Co., Inc., is the new name of the **Ballston-Stillwater Knitting Co., Inc.,** Ballston Spa, N. Y. Board members emphasized that the name was changed only for convenience and that no changes in the management, production, or distribution set-ups are contemplated.

Two member mills of the **Burlington Industries, Inc.,** group are scheduled for intensive modernization programs. Included in the plans is the construction of additional floor space at the Middleburg Mill in Batesburg, S. C., to allow machinery consolidation and more efficient arrangement of production facilities. Operations at the Lexington (S. C.) Mills will be realigned for improved manufacturing coordination between the two plants. * * * Plans for an extensive modernization program at the Mayfair Textile Co. in Burlington, N. C., have been announced. The finishing plant is to be rebuilt and enlarged and a new office building will be constructed. The program is being undertaken in order to modernize manufacturing operations and promote better efficiency.

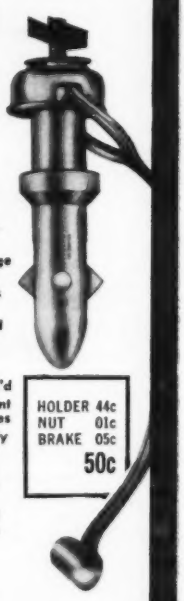
Construction has begun on an addition to the **Aberdeen (N. C.) Hosiery Mill** to house the looping department and provide more space for other operations.

Employees of the Edna Plant, a member of the **Cone Mills Corp.** group, Reidsville, N. C., recently entertained the ministers of their community at an open house. Refreshments were served and a brief talk, outlining the history of the Edna Plant, was made by Frank Starling, plant manager. * * * Cone Mills' corduroy was chosen for use in the recently completed Museum of Modern Art in New York.

AMERICA'S FINEST

POSITIVE-LATCHING BALL BEARING

BOBBIN HOLDER



- Easy tripping—Positive latching—Freest running—Bulletnosed
- Faster for Operator to change
- Stainless steel precision balls—Stainless steel races —No rust drag
- The only thoroughly sealed ball assembly in any B.H. Prevents lint drag even after 2 or 3 years
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- One size fits 8 x 4 thru 12 x 7 bobbins

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Museum officials found the material effective both for drapes and as a background for paintings, the ribbed surface lending an effect of depth. * * * A new building is under construction across from Union Bleachery in Greenville, S. C. It will house an accounting machine unit to service the finishing division and a clerical unit to handle sales to Cone's customers. Scheduled for completion about the middle of the year, the new operation will employ 30 to 40 people. New executive offices adjacent the bleachery have been completed.

A new firm has been opened in Lodi, N. J., by John and Jerome Callendrilo on the premises of the former Lodi Piece Dye Works. Known as **Caltex Dyeing and Finishing Co.**, the establishment dyes and finishes acetate and nylon lining and dress materials. Equipment includes 17 machines. About 15 persons are employed.

Current industry demand has made necessary the installation of additional dyeing equipment for high-bulk yarns at **Chwatt Brothers, Inc.**, Brooklyn, N. Y.

The flat fabrics production facilities of The Neisler Mills division of **Massachusetts Mohair Plush Co., Inc.**, in Kings Mountain, N. C., have moved into the recently renovated Margrace building. The firm has purchased equipment for the manufacture of pile fabrics in line with recently announced diversification plans. The finishing plant has been expanded to handle the increased production, and the dye tub capacity will be increased in the near future. A modern dryer has been installed.

Native Laces & Textiles, Inc., has absorbed **Hayward Lace & Embroidery Co.**

A two-story, 15,000 sq ft addition to its present plant is being constructed by **Frank S. Nelson & Co., Inc.**, Philadelphia, Pa., bringing the total area of the plant to 150,000 sq ft. The expansion was necessitated by increased demand for the firm's woolen and synthetic carpet yarns, according to officials. The new building is designed to consolidate warehousing, streamline shipping and receiving, and eliminate bottlenecks in material flow.

The four-story plant of **Seneca Knitting Mills, Inc.**, Seneca Falls, N. Y., has been completely destroyed by fire. A company spokesman stated that ground will be broken for a new one-story building as soon as weather permits. Meanwhile the firm is operating in temporary factory space with new equipment, including 32 recently purchased knitting machines of 72- and 84-needle gauge. All of the 330 employees will be re-employed when full production is resumed. The company plans to add men's fancy socks and women's knee-high hose to its established line of men's athletic, hunting, and work hosiery and girls' bobby and athletic socks.

The mills and offices of **Banff, Ltd.**, have been relocated in Midland, N. C., due to the need for increased facilities. While the firm will continue to maintain showrooms in New York City, all shipping of the company's domestic, Italian, and Austrian knitwear will be made from the new location.

Manufacturing operations at **Bonnie Lass Knitting Mills, Inc.**, Clifton, N. J., have been discontinued. Plans are to continue production of merchandise in a North Carolina plant

The ULTIMATE in PACKAGE DRYERS

GASTON COUNTY-AVESTA recirculating RAPID DRYERS are built under U. S. Patent No. 2,567,940 and R.E. 24,260 through a license agreement with Avesta Company in Sweden.

Custom built to individual mill requirements in "Single Kier" or "Multiple Kier" arrangements for 250 to 1,000 or more pounds of yarn. Design determined by package carriers in customer's plant regardless of make.

CONSTRUCTION

Built to ASME standards. Piping systems, heater housings, condenser housings, reversing valves and drying kiers made of stainless steel. Kier lid of stainless or carbon steel as specified.

Heater and condenser coils made of heavy curpo-nickel alloy tubing for long service life.

Send for detailed technical data and drying cycles based on your production.

ADVANTAGES

1. Better yarn quality
2. Short drying cycles
3. Completely automatic operation
4. Low labor costs
5. Low power consumption
6. Low steam consumption
7. Eliminates costly air filters
8. No contamination from atmosphere
9. Eliminates expulsion of hot air into dyehouse
10. Allows more efficient use of package carriers
11. Accelerates flow of material through dyehouse
12. Faster delivery of finished product to customer
13. Allows smaller inventory of finished goods
14. Reduces overall costs of dyehouse operation

Gaston County Dyeing Machine Co.

STANLEY, NORTH CAROLINA

Gaston County Dyeing Machine Co., Terminal Bldg., 68 Hudson St., Hoboken, N.J., G. Lindner, Mgr.

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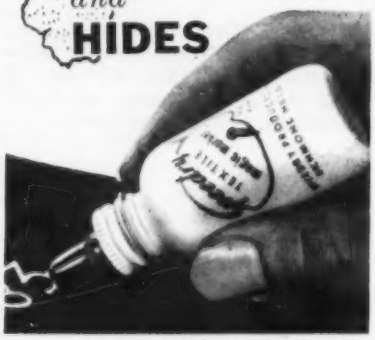
LEATHERS *and* **HIDES**



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- UNBREAKABLE SQUEEZE BOTTLE
- EASIEST TO USE TO THE LAST DROP
- REFILLABLE — ECONOMICAL
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World's leading manufacturers of special purpose marking, stamping and stencilling inks and devices for industry.

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MILL NOTES

under contract, it was announced. Though machinery will be disposed of, the plant will be retained as a sales and distribution center.

A new firm has been opened in Lodi, N. J., by John and Jerome Callendrilo on the premises of the former Lodi Piece Dye Works. Known as **Caltex Dyeing and Finishing Co.**, the establishment dyes and finishes acetate and nylon lining and dress materials. Equipment includes 17 machines. About 15 persons are employed.

Brittany Dyeing & Printing Corp. has begun operations in the former Normandy Print plant at New Bedford, Mass. The new firm specializes in screen printing on silks, rayons, cotton, man-made fiber fabrics, and elastic fabrics for apparel, tie, swimsuit, and drapery fields.

Certificate of incorporation has been issued to **Diane Hosiery Mills, Inc.**, Burlington, N. C. Principals are Carlton B. Boland, Jack R. Lindley, and C. C. Cates, Jr.

Officials of **The Duplan Corp.** have announced plans to double the stretch yarn production capacity of the firm's Cleveland, Tenn., plant. Approximately $400,000 will be spent on the program.

The boarding and pre-boarding operations of **Ellen Knitting Mills,** Spruce Pine, N. C., have been extended into the previously unused first floor of the two-story, 80,000 sq ft plant. The mill manufactures seamless nylon stockings and cotton hosiery. The nylon hosiery is shipped to the parent company plant, Manchester (N. H.) Hosiery Mills, for dyeing and finishing.

The Burnsville, N. C., spinning division of **Firth Carpet Co.** is conducting a training program to prepare local personnel for the manufacture of yarns.

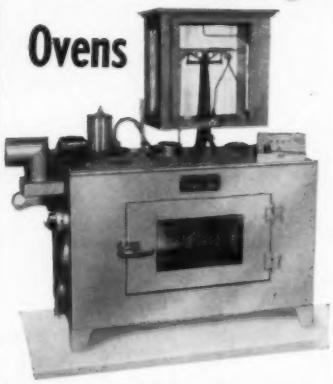
General Knitting Mills, Monroe, N. C., is now producing T-shirt fabrics for men and boys, in addition to its regular line of underwear and dress knit goods. A knit fabric designer, Pierre Montaugh, has been retained to design conservative knit fabrics for the manufacture of half-size dresses. The firm has also opened an office at 110 W. 34th St., New York City.

Two plants in Carrboro, N. C., formerly operated by **Pacific Mills, Inc.**, have been purchased by the newly-formed **Jefflene Corp.** The firm expects to employ more than 500 persons in knitting, dyeing, and bleaching of cotton cloth for knit garment manufacturers. The properties include two modern, air-conditioned buildings totaling 168,000 sq ft and 32 acres of ground.

The majority of the new equipment which has been installed at Grace Bleachery division of **The Springs Cotton Mills,** Grace's Station, S. C., is now in operation. Equipment installed during the expansion program instituted two years ago includes two mercerizers, three heat treating ovens, a finishing range, a 5 million-gallon-per-day water filter plant, and a heat reclamation system.

Purchase of **The Linen Thread Co., Inc.**, from Linen Thread Co., Ltd., Glasgow, Scotland, has been completed by **Indian Head Mills, Inc.** The company will be operated as a wholly-owned subsidiary of Indian Head. H. E. Kegelman continues as president of the newly-acquired facilities.

Textile Testing Ovens



EMERSON OVENS

For accurate testing of water content in yarn, small wool samples and other textile material. The 8 Basket Oven, shown above, can be furnished with 8 baskets 3" sq. x 6" deep or 6 basket 4½" sq. x 6" deep, complete with weighing balances, sensitive to 3 mg., weights and automatic temperature control. Table space 20" x 40".

Details of other style Ovens with specially designed baskets to handle YOUR TESTING PROBLEM on request.

EMERSON APPARATUS CO.

179 Tremont St. Melrose 76, Mass.

Queen Anne Mills, Inc., has been formed by Frank S. Stanek at 1034 River Rd., Edgewater, N. J. The firm specializes in raschel knitted novelty fabrics.

A process for producing fine woven pile fabrics that are dimensionally stable and washable has been developed in the Wilmington, N. C., plant of **E. F. Timme & Son.** The technique permits production of washable woven pile cloths, including woolens, alpacas, and acrylics.

The installation of new equipment at **United Dyeing and Finishing Co., Inc.,** Catasaqua, Pa., is expected to increase the firm's output by an estimated 20 per cent.

Wilshire Knitting Mills, Inc., which recently moved into larger quarters in Philadelphia, Pa., has added new knitting machines, including a number for producing bulky knits. The new plant has been laid out in a scientifically planned flow system, and production is expected to double as a result of the increased facilities.

Construction of a new 48,000 sq ft, air conditioned garment plant for **Gibbs Underwear Co.** is under way in Lincolnton, N. C. No general move of the firm's main manufacturing facilities from Philadelphia is contemplated, according to company spokesmen.

A 15 per cent increase in the production of women's seamless hosiery has been effected by the installation of new machines at the **John H. Guenther Hosiery Co.** in Reading, Pa. The firm has installed a number of full-fashioned machines formerly operated at its subsidiary plant, Supreme Hosiery Co., Jersey Shore, Pa.

Kingston Knitting Mill, Cambridge, Mass., has ceased operations and is in the process of liquidation.

Demford & Co., operators of the **Medford Knitwear Mills,** Medford Township, Burlington, N. J., have purchased an adjoining industrial tract of 23.70 acres for expansion of present operations.

New hosiery knitting machines and other equipment are being installed at the Hayward Hosiery Co., Ipswich, Mass., a subsidiary of **Munsingwear, Inc.,** and production facilities are being considerably enlarged. The Munsingwear plant in Minneapolis, Minn., has been closed and operations transferred to the Clarksdale, Miss., and Charlotte, N. C., plants.

Contract has been let for the construction of an addition to **Silver Knit Hosiery Mills Co.,** High Point, N. C. The new area will contain 35,000 sq ft of floor space and is the initial move in a modernization program, details of which have not yet been completed.

Moretz Hosiery Mills, Inc., has purchased **Bothwell Mills, Inc.,** and will operate it as a wholly-owned subsidiary. Both firms are in Newton, N. C. No changes are contemplated at present, but a company spokesman has indicated that future plans include expansion of production and enlarging the line. At present Bothwell produces men's half hose and has recently engaged in the finishing of infants' and misses' hose.

A new corporation, **Chesterfield Yarn Mills, Inc.,** has purchased **Palmetto Yarn Mills, Inc.,** Pageland, S. C. No management changes are indicated.

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TRADE MARK REGISTERED

THE STANDARD LOOM LUBRICANT

The majority of mills have adopted NON-FLUID OIL as the standard loom lubricant because its use enables them to secure maximum output of perfect goods.

Ordinary oils or greases drip, spatter and leak, getting on warps, woven goods and floors, resulting in higher "seconds," higher lubrication cost and highest application cost. NON-FLUID OIL prevents these losses by staying in bearings and lubricating instantly and positively until entirely consumed; its use assures peak production at lowest cost.

Send for Bulletin T-20 and a free sample of NON-FLUID OIL for a fair trial on your looms . . . You will quickly see why 7 out of 10 mills use NON-FLUID OIL regularly.

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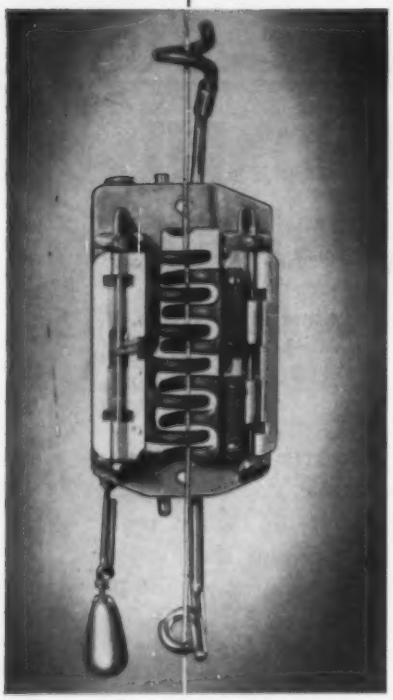
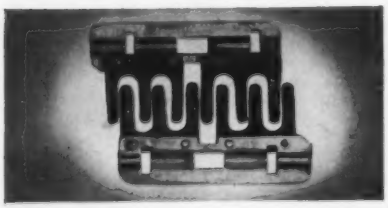


If guide wear is a problem in your mill . .
try HEANIUM T-3-F FINGER ASSEMBLIES



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NEW HAVEN 3, CONNECTICUT

SUPPLIER NOTES

William H. "Bill" Wallace, Jr., has accepted a position with **Louis P. Batson Co.** His territory will consist of a portion of the mills within the radius of 150 miles from Greenville, S. C. He was formerly associated with Alice Manufacturing Co. and with W. N. Cruikshank

Mr. Wallace

Mr. Alfred

Cotton Co. * * * Howard S. "Sonny" Alfred has joined the Batson organization and will call on a portion of the mills in Alabama, Tennessee, and Georgia. Mr. Alfred's territory consists of a portion of that which has been covered by Joe Williams. It was emphasized that Mr. Alfred is not replacing Mr. Williams, but is an addition to the sales staff.

The textile machinery inventions of **The American MonoRail Co.** are available to the textile industry through other machinery builders under a licensing agreement. Licenses have been granted to the Parks-Cramer Co., American Moistening Co., and the Bahnson Co. to operate under basic patents on these inventions.

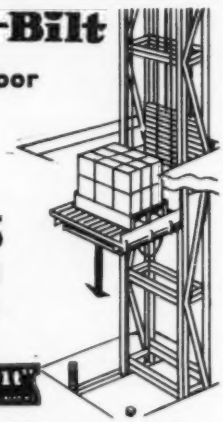
Loran F. Kelley, a director of **Edward H. Best & Co.**, has joined the firm as secretary and assistant treasurer.

Frederick G. Brown and McDonald L. Edinger have formed an advisory service known as **Brown and Edinger Associates.** Located in Warwick, R. I., the firm specializes in the technical and production problems in the dyeing, printing, and finishing industry. Messrs. Brown and Edinger were associated with The Apponaug Co. for many years.

Ferguson Barnes has been appointed southeastern division manager for **Chainveyor Corp.** He will headquarter in the company's Jacksonville, Fla., offices and will service Florida, Georgia, Alabama, and North and South Carolina.

William H. Kieffer and Charles J. Weidmann have been elected vice-presidents of the **Ciba Co., Inc.** Mr. Kieffer retains his duties as general

Weld-Bilt
Floor-to-Floor Elevator
Saves TWO HANDLINGS on Carded Wool Rolls



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William K. Child, vice-president of Draper Corp., was elected president of the AMERICAN TEXTILE MACHINERY ASSOCIATION at its recent annual meeting. He succeeds James H. Hunter, president of James Hunter Machine Co. Robert Leeson, president of Universal Winding Co., was elected vice-president. Re-elected treasurer was F. Gorham Brigham, Jr., secretary-treasurer of Saco-Lowell Shops. Left to right in the photo are: Messrs. Leeson, Hunter, Child, and Brigham.

sales manager of the dyes division and Dr. Weidmann continues as technical director.

Steve Kowal has joined **Apex Chemical Co., Inc.,** as sales representative in North and South Carolina. He is located at 1312 W. Market St., Greensboro, N. C.

Michael D. Croce has accepted a position as sales and service representative with **Ashworth Brothers, Inc.** With headquarters at the firm's Charlotte, N. C., office, Mr. Croce will contact mills with napping equipment.

According to a recent announcement, **Patterson-Kelley Co.** has sold eight heat reclaimers for installation at Cannon Mills, Kannapolis, N. C.

A new 25,000 sq ft compounding plant has been opened in Charlotte, N. C., by **General Latex & Chemical Corp.** The plant has a fully integrated staff, research and development laboratories, and complete facilities for compounding rubber latices for the textile, rubber, automotive, and upholstery industries. In addition, the complete line of General latex products is available through the facility.

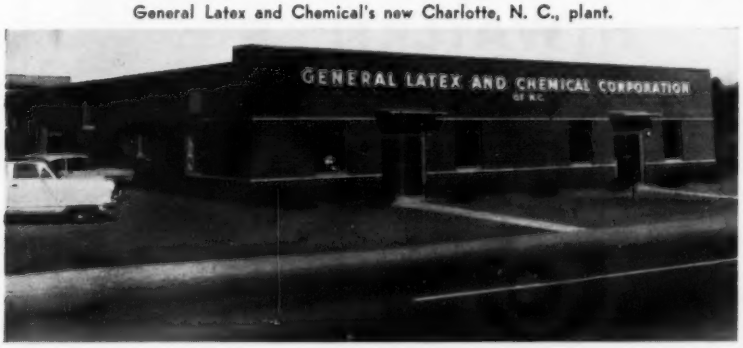
American Viscose Corp. and **Sun Oil Co.** have established an equally owned affiliate for the commercial production of polypropylene. Known as **AviSun Corp.,** the new firm will be an integrated company for the manufacture, processing, and sale of fibers, resins, film, elastomers, surface coatings, and adhesives using olefin polymers or copolymers with other substances. Commercial quantities of polypropylene resin are expected to be available by mid-summer. Chalmer G. Kirkbride has been elected president of the firm, William H. Brown treasurer and assistant secretary, and Joseph T. Wilson, Jr., secretary and assistant treasurer.

Ernest Frank has been named sales manager of the international division of **Textile Machine Works.** The post has been vacant since LeRoy P. Garrigan was promoted to manager of the division early last year.

Harold G. Shelton has been appointed general manager of the Dyestuff & Chemical Division of **General Aniline & Film Corp.** He replaces Philip M. Dinkins, who was recently elected to the presidency.

The chemical division of **General Mills** has opened a new sales office to

General Latex and Chemical's new Charlotte, N. C., plant.



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SUPPLIER NOTES

serve the southeastern states. It is located at 213 E. Morehead St., Charlotte, N. C.

A new plant and office has been opened by **Sherrill Manufacturing Co.** on the New Dallas Hwy., Gastonia, N. C. The larger quarters, plus modern warehousing and stocking of parts, will assure prompt delivery of orders, according to a company spokesman.

Mr. Byne
Becco Chem.

Mr. Blessing
Procter & Gamble

J. Miller Byne, III, has been assigned to the southern sales territory for **Becco Chemical Division,** Food Machinery and Chemical Corp. He will operate out of the Charlotte office, traveling in North and South Carolina.

Onyx Oil & Chemical Co. has combined the industrial division sales department with that of the textile and paper division. Irving Gaines, formerly industrial division sales manager, has been named general sales manager. Philip E. MacLean, formerly textile and paper division sales manager, was promoted to sales manager.

Fulton Cotton Mills, Atlanta, Ga., is now job printing apparel fabrics with the Pequot easy-care, no-iron finish, according to Fred G. Barnet, vice-president.

Frederick T. Lense has joined the research and development staff of **Texize Chemicals, Inc.** He was formerly with Southern Research Institute.

R. Wayne Blessing was recently transferred to the industrial specialties sales department of **Procter & Gamble,** where he will handle the sale of textile soaps, synthetic detergents, and specialties to mills in North Carolina and Virginia. Mr. Blessing resides in Greensboro, N. C.

Bennett S. Rose has sold his interest in the **Bennett Rose Co.** to company employees J. Fred Timms, Mae Cudd, Paul Teaster, and Horace Williams. The company will operate

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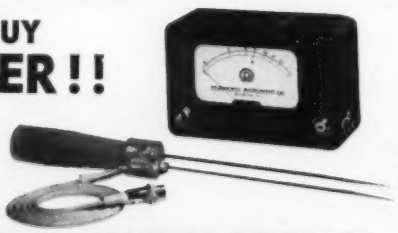

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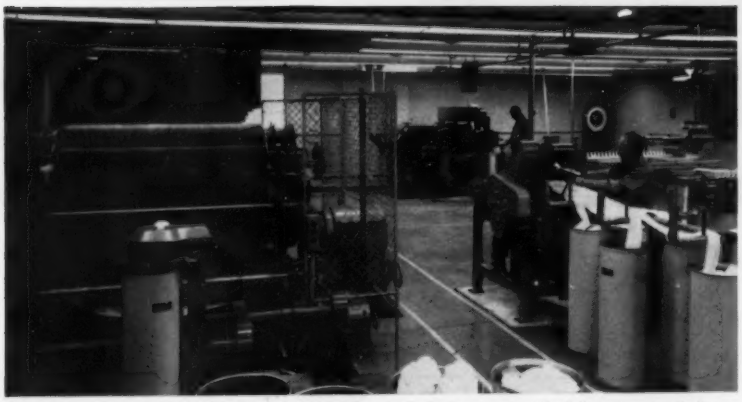

Top-making equipment in B. F. Goodrich Chemical Co.'s new textile laboratory includes a worsted card (left), gilling equipment (right), and a machine for direct tow-to-top conversion (background).

under the same name and will continue to manufacture materials handling equipment for textile plants. Mr. Timms has been elected president and will also head the company's sales department. Miss Cudd was named secretary. Mr. Rose continues with the company in a sales capacity.

A textile research and development laboratory has been completed at the Cleveland, O., office of **B. F. Goodrich Chemical Co.** According to Harry B. Warner, vice-president of marketing, the facility is equipped with virtually every type of textile processing equipment necessary for the creation of yarns and testing of products made from Darvan dinitrile fiber, currently produced and marketed by Goodrich.

A textile fibers sales center, the firm's largest outside New York, has been established by **The Dow Chemical Co.** in the Wachovia Bank Bldg., Charlotte, N. C. The new office will serve nine southern seaboard states. District sales manager for textile fibers sales is William B. Guerrant.

Harold W. Sterns has been elected assistant treasurer of the **Trust Co. of Ga.** He continues as New York representative of the Factoring Department. * * * Charles E. Thwaite, Jr., has become chairman of the board, replacing John A. Sibley who remains on the board as chairman of the executive committee. William S. Woods was named vice-chairman, and George S. Craft was elevated to president and director.

Robert L. Huffines, Jr., has been elected to the board of directors of **Roberts Co.**

T. Bayard Baldridge, Jr., has joined the staff of **U. S. Textile Machine Co.** as sales engineer for northeastern United States. * * * William P. Russell has accepted a position as representative of the firm in the states of Florida, Mississippi, Georgia, Alabama, and Tennessee. Mr. Russell makes his home in Atlanta, Ga.

C. T. Schieman, Jr., has been appointed sales manager of the Silicones division, **Union Carbide Corp.**, with headquarters in the New York City general offices. In his new capacity he is responsible for all customer sales activities. T. J. Fontelieu has succeeded Mr. Schieman as southern region manager, with headquarters in Atlanta, Ga.

Joseph A. Tittl has been named New York sales representative for the **Wildman Jacquard Co.**, a subsidiary of Draper Corp.

According to an announcement by **The Warner & Swasey Co.**, two two-spindle Whirlwind Twister-

Mr. Baldridge
U. S. Textile Mach.

Mr. Sterns
Trust Co.

Mr. Fontelieu
Union Carbide

Mr. Guerrant
Dow Chemical

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Arrow points to Jenkins' METLKOR Furnisher Brush.

Jenkins' METLKOR Nylon Furnisher Brush.

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In addition to a complete line of brushes for printers, Jenkins' also makes brushes for: Shears, Carbonizers, Singers, Tenter Frames and all other Textile Wet and Dry Finishing Processes.

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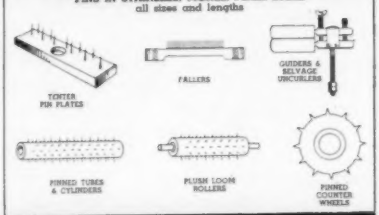

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SUPPLIER NOTES

Winder Machines for making maritime and industrial ropes up to 3¼" in diameter have been installed at the New Bedford (Mass.) Cordage Co.

U. S. Dyestuffs Co. has acquired the **Dyer S. Moss Co.** The latter will operate under the same name. Newton H. Sobin, president of U. S. Dyestuffs, is president and treasurer, and Dyer S. Moss remains with the company as an officer and director.

Stedco-Southern, Inc., filling bobbin manufacturing subsidiary of Steel Heddle Mfg. Co., has announced the appointment of Smith, Crawford and Teat as representatives in the states of Georgia and Alabama. Principals of the West Point, Ga., sales organization are: Hugh K. Smith, formerly a representative of Terrell Machine Co. and Watson & Desmond, and Ben H. Crawford and James L. Teat of Southeastern Engineering Co.

Mr. Smith
Smith, Crawford & Teat

Mr. Hall
Interstate Textile Equipment

Seth Hall has joined the **Interstate Textile Equipment Co.** as sales engineer. He will specialize primarily in the dyeing and finishing department.

Benjamin J. Zalkind has rejoined **Saco-Lowell Shops** as consulting engineer in the product engineering department of the textile machinery division at Easley, S. C. * * * Arthur Howard, for many years a key member of the Victor Traveler Co. organization, has been transferred to the Saco-Lowell Replacement Parts Division in Greenville, S. C. His new title is Victor sales coordinator. * * * Saco-Lowell has entered the electronics field with the purchase of the stock of Servo Dynamics Corp.

Sjostrom Knotwood Apron Co. has appointed **James Hunter, Inc.,** exclusive selling agents in all the southern states.

Richard A. Snipes has joined **New York & New Jersey Lubricant Co.** as sales representative in the South Carolina territory.

Mr. Snipes
N. Y. & N. J. Lub.

Mr. Shore
Metro-Atlantic

Metro-Atlantic, Inc., has promoted James C. Shore to sales manager in charge of all northern sales, which includes New England, Middle Atlantic States, Mid-West, Pacific Coast, and Canada.

Hayden C. Cobb, Jr., has been made sales manager for metallic yarns for the **Metlon Corp.** in North and South Carolina and Virginia. His headquarters are at 121 N. Main St., Mooresville, N. C.

Spinning Efficiency

(from page 106)

improvement in spinning and doffing. Needless to say that his suggestions were followed enthusiastically, instead of being applied grudgingly. This invitation for co-operation was in itself a major breakthrough, especially when the industrial engineer is easily considered a snooper by foremen and workers alike.

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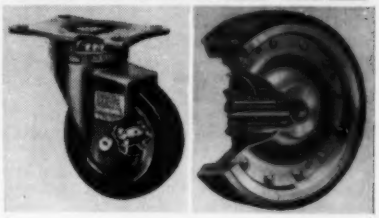

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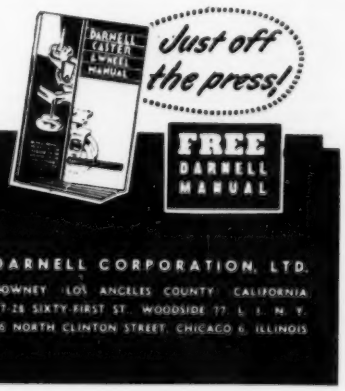
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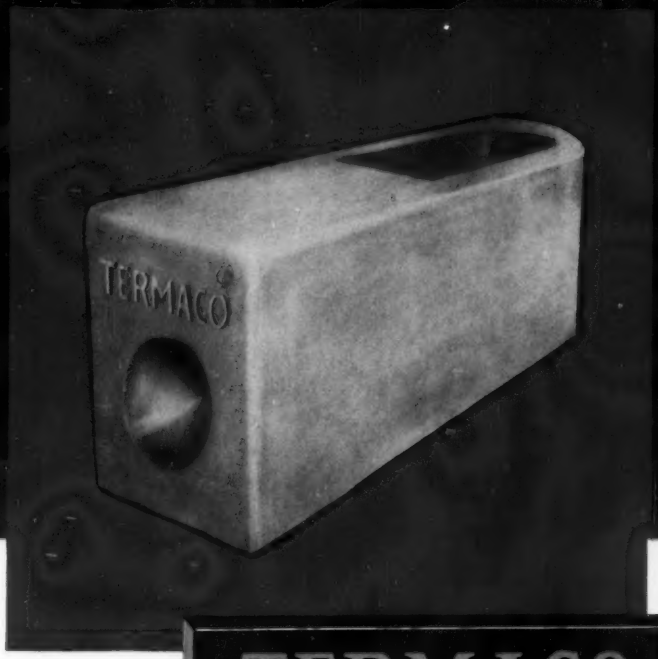

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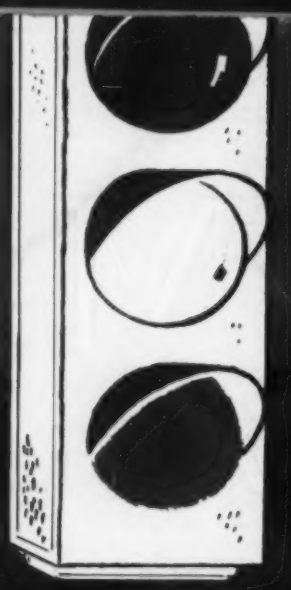

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